

J LINE CONNECTION PROJECT

U.S. Department of Transportation
Urban Mass Transportation Administration and
San Francisco Department of City Planning

San Francisco, CA


FINAL
Environmental Impact Statement

INSTITUTE OF GOVERNMENTAL
STUDIES

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DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
WASHINGTON, D.C. 20590

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Final

Final Environmental Impact Statement

MUNI J Line Connection Project
San Francisco, California

MAY 4 1983

Date

for Robert W. Stout
Charles H. Graves
Director, Office of
Planning Assistance

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U.S. DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION

FINAL

ENVIRONMENTAL IMPACT STATEMENT

AND

ENVIRONMENTAL IMPACT REPORT

Pursuant to Section 102(2)(c) of the National Environmental Policy Act of 1969, and Sections 3(d) and 14 of the Urban Mass Transportation Act of 1964, as amended; and

Pursuant to Sections 21083.7 and 21151 of the California Environmental Quality Act of 1969, as amended, California Public Resources Code Section 21000, et seq.

RESPONSIBLE AGENCIES:

Lead Agencies: Urban Mass Transportation Administration
San Francisco Department of City Planning


Cooperating Agency: San Francisco Municipal Railway

TITLE OF PROPOSED ACTION: Muni J Line Connection Project, San Francisco, California

ABSTRACT: This report documents environmental impacts of three alternative alignments of the J-Church street car line of the San Francisco Municipal Railway System to connect the existing terminus at 30th and Church Street with the storage facility at San Jose and Ocean Avenue. The three build alternatives are the San Jose Alignment, the Monterey Boulevard Alignment and the Mission Street Alignment. A no-build alternative is also considered.

For further information, please contact:

Gail Bloom
San Francisco Department of City
Planning
450 McAllister Street
San Francisco, CA 94102
(415) 558-5261

 MAY 20 1983

This Final EIS was made available on _____.

SUMMARY OF PROJECT ALTERNATIVES AND IMPACTS

A. PURPOSE OF AND NEED FOR PROJECT

The San Francisco Municipal Railway (MUNI) has determined that the J-Line Connection project is needed for the following reasons:

1. Revenue service would provide a connection linking the Mission District with the southern portion of the City.
2. Additional service would be provided to riders at lower costs to MUNI.
3. In the event of a line blockage in the Twin Peaks Tunnel, K, L and M cars would have an alternate route available to and from the Market Street subway via Church Street.
4. Impacts on Ocean Avenue resulting from operation of all J and N, as well as K and L, pull-in and pull-out cars would be reduced. In addition, the 26-line would become a more community-oriented service, reducing noise and adverse impacts of motor coach operation on Chenery Street.
5. Improved service would be provided for Glen Park.

B. PROJECT DESCRIPTION

MUNI proposes to connect the present terminal of the J-Church streetcar line at 30th and Church Streets with the MUNI Metro Center at Ocean and San Jose Avenues. Three alternative routes were considered **and the San Jose Avenue, described below, has been selected as the locally preferred alternative.** The route would be constructed within street rights-of-way. MUNI also proposes operationally to interline the J- and M-Lines to form a loop route **as part of the project.**

1. The Locally Preferred Alternative: San Jose Avenue Alignment

This alignment would be routed from 30th and Church Streets via 30th Street and San Jose Avenue to Ocean Avenue, and would be 2.3 miles in length. Estimated construction costs would be \$10.9 million. Net annual operating savings would be \$180,000 to \$320,000, depending upon **whether the length of headways is extended to 12-minutes along less heavily used portions of the route.** This operational change has been recommended by MUNI staff. A subalternative to route the alignment from 30th Street along Dolores Street to San Jose Avenue was considered and rejected.

2. Monterey Boulevard Alignment Alternative

This alignment would be routed from 30th and Church Streets via 30th Street, San Jose Avenue, Monterey Boulevard, Genessee Street, Judson Avenue, Phelan Avenue, and Ocean Avenue, and would be 3.3 miles in length. Estimated construction costs would be \$17.4 million. Net annual operating costs would be \$180,000 to \$390,000, depending upon the length of headways.

3. Mission Street Alignment Alternative

This alignment would be routed from 30th and Church Streets via 30th Street, Mission Street, and Ocean Avenue, and would be 2.5 miles in length. Estimated construction costs would be \$14.3 million. Net annual operating costs would be \$270,000 to \$560,000, depending upon the length of headways.

4. No-Build Alternative

The No-Build Alternative would maintain the present system of operations (i.e., J-Line cars would traverse the Twin Peaks Tunnel to be placed in service).

C. IMPACTS

1. Land Use

All alignments under consideration would be located in existing street rights-of-way or in existing medians. There would be no direct impact on existing land uses and zonings.

2. Visual Effects and Urban Design

Because each alternative alignment would encounter a somewhat different cityscape, the visual impact of the permanent physical structures (overhead wires and support standards)

and of the LRV traffic itself would result in different impacts for each proposed alignment.

The overall visual impact of LRVs in the proposed Mission Street Alignment would be influenced by the existing trolley bus wires and by the background of visual elements, which would tend to mask the addition of new permanent physical structures. The street is frequently traversed by buses and larger trucks, so the LRVs would not introduce an entirely new dimension of vehicle. The adjoining properties are in general more commercial than along the other alignments; therefore, the general visual impact, and, specifically the impact on the view from the second story of the streetfront structures would be less than for the other two alignments.

The San Jose Avenue and the Monterey Boulevard Alignments both would pass through the Bernal Cut. The San Jose Avenue Alignment would traverse the entire length of Balboa Park, which would affect the view from the houses on the side of the street opposite the park. In the City College loop section of the Monterey Boulevard Alignment, the permanent physical structures (support poles and overhead wires) would have to be above ground; except along Genessee Street, all other utilities are currently underground in this area.

The potential for noticeable arcing at night or in humid weather would have an impact in the residential neighborhoods along any of the proposed alternatives.

3. Compliance With Existing Plans and Policies

All alignments under consideration conform generally to the policies of the Transportation Element of the Comprehensive Plan and to the MUNI 5-year Plan. Any of the proposed routes would marginally help to reduce dependence on the private automobile by providing improved crosstown service to City College, San Francisco State University and Stonestown Shopping Center. The easier accessibility by public transit to Balboa Park in each case would also conform to the policies of the Citywide Recreation and Open Space Plan.

The alignments would conform to policies stated in the Transportation Element and The Environmental Protection Element in that the MUNI J-Line connection would potentially reduce the impact of the private automobile in neighborhoods and would utilize electricity which is relatively quiet, economical and pollution free when compared to diesel buses.

4. Economic and Fiscal Impacts

The San Jose Avenue Alignment would generate a net savings to the MUNI system, while the other two alternatives would result in net costs.

If the No-Build Alternative were selected, construction and operational costs would be saved, although the potential for a system-wide net savings would be lost.

5. Public Services and Utilities

All alignments would potentially require the relocation of both overhead and underground utilities along portions of their respective rights-of-way.

During the construction period, possible minor increases in emergency vehicle response times would be similar in all three alternative alignments.

6. Growth Inducement

The service improvement in and to the affected areas would not have an immediate impact on their current compositions, which are single and multifamily residential neighborhoods interspersed with some commercial and institutional usages. It is not anticipated that the introduction of the J-Line Connection would induce either commercial or residential growth in these areas.

7. Displacement and Relocation

None of the alignments would displace or relocate businesses or residential structures.

8. Transportation

Removal of some parking spaces along the San Jose Avenue Alignment would be necessary to facilitate traffic flow. On the other hand, the loss of a traffic lane each direction on San Jose Avenue at Randall Street would increase congestion. At the San Jose Avenue/I-280 undercrossing, introduction of LRVs in the median would slow traffic measurably. For the San Jose Alignment, **aside from the Randall Street intersection**, the LRVs would present few problems regarding volume of traffic. The introduction of LRV traffic would tend to slow automobile traffic, thus providing a general benefit to

pedestrians. Likewise, traffic speed would be reduced where car-stop platforms were to be built. However, where no such islands were to be built, persons boarding or leaving the LRVs at midstreet stops would be exposed to on-coming traffic. The pedestrian access to the LRV station at Glen Park would cross an off-ramp. As part of the proposed project, signs and flashing amber lights would be installed to reduce the potential for hazards to pedestrians.

Bicycle traffic would be affected by the elimination of the existing (but lightly used) bicycle path in the Bernal Cut. **A mitigation could be considered to retain a 400-foot section of narrow "walk-your-bike" sidewalk, but one traffic lane would have to be eliminated. This mitigation is not currently proposed by MUNI staff.**

For the Monterey Boulevard Alignment (i.e. Monterey Boulevard, Phelan Avenue and Ocean Avenue), **aside from the San Jose Avenue/Randall Street and the Phelan/Geneva/Ocean intersections**, the LRVs would present few problems regarding volume of traffic. On the Monterey Boulevard Alignment, the tracks on Genessee Avenue would require removal of parking from one side of the street. The introduction of extra LRV movements at the Ocean/Phelan Avenues and Ocean/Geneva Avenues intersections would create backups on Geneva Avenue in the p.m. peak hour. The introduction of LRV traffic would tend to slow automobile traffic, thus benefiting the pedestrian. Likewise, Traffic speed would be reduced where car-stop platforms were to be built. However, where no such islands were to be built, persons boarding or leaving the LRVs at midstreet stops would be exposed to on-coming traffic. At City College, on the Monterey Boulevard Alignment heavy pedestrian traffic would interface with LRV movement. Bicycle traffic would be affected by the elimination of the existing bicycle path in the Bernal Cut.

Mixed LRV/trolley bus traffic and car-stop islands would measurably slow traffic along the Mission Street Alignment. Removal of some parking spaces would be necessary to facilitate traffic flow along certain segments of the Mission Street Alignment. The LRVs would duplicate existing transit facilities. The introduction of LRV traffic would tend to slow automobile traffic, thus benefitting the pedestrian. Likewise, traffic speed would be reduced where car-stop platforms were to be built. However, where no such islands were to be built, persons boarding or leaving the LRVs at midstreet stops would be exposed to on-coming traffic.

9. Air Quality, Noise and Vibration

Impacts on air quality and impacts for noise and vibration would be similar and practically unmeasurable for each proposed alignment.

With regard to noise, LRV traffic would represent an actual decrease in impact levels where such service replaces bus service, an advantage over the No-Build Alternative. However, with regard to vibration, although the effects of an LRV pass-by are so minimal that they are only barely perceptible, the three proposed alignments introduce vibration as a new form of disturbance in the affected residential neighborhoods.

During the approximately three to five weeks that it would take to complete a section of track, maximum noise could be generated during the two to four days of pavement removal and spike driving. In general, other construction noise would not exceed existing truck and bus noise in the area.

10. Vegetation

The locally preferred alignment would not travel Dolores Street, and thus potential impact to the 13 mature Canary Island Date Palms located in the median of the one-block segment of Dolores Street between 30th Street and San Jose Avenue which may have occurred with a previously considered sub-alternative are not at issue. Near San Jose Avenue and Havelock Street, at least one large Monterey cypress may require trimming.

11. Energy

Energy consumption during the construction phase would vary among the alternative alignments from **570** billion BTUs (the equivalent of **103,000** barrels of oil) for the San Jose Avenue Alignment, to **740** billion BTUs (**133,000** barrels of oil) for the Mission Street Alignment, to **900** billion BTUs (**162,000** barrels of oil) for the Monterey Boulevard Alignment. Once in operation, the San Jose Avenue Alignment would result in **an annual** savings of 2.9 billion BTUs (500 barrels of oil), the Mission Street Alignment would result in the consumption of an additional **6.5** billion BTUs (**1,200** barrels of oil), and for the Monterey Boulevard Alignment an additional **11** billion BTUs (**2,000** barrels of oil).

In terms of percentage of the energy consumption for the San Jose Avenue Alignment, the least energy-consumptive alignment, the Monterey Boulevard Alignment would consume

60% more energy during the construction phase; the Mission Street Alignment would consume **30%** more energy in construction than would the San Jose Avenue Alignment. **The Monterey Boulevard alignment would consume about 70% more energy (above the no-build alternative) than would the Mission Street alignment. The San Jose Avenue alignment would consume less energy than the no-build case.**

The No-Build Alternative would result in eliminating energy consumption and operation incurred by any of the three alignments.

12. Soils and Geology, Seismicity and Hydrology

Although there are differences in the relative geological, seismological and hydrological impacts of the three alignments, these differences would not translate into noticeably different physical effects. Especially with regard to the impacts of geological differences (mainly landsliding) and of hydrological differences (mainly erosion during construction and silting of the drainage system), mitigation measures could make the net impacts practically the same.

13. Historical and Archaeological Sites

The **alternative** alignments would **neither physically take any land or buildings from a historic resource** or known archaeological sight **nor preclude the appropriate use of such resources.**

14. Park and Recreation Lands

All three alignments potentially increase access to Balboa Park and neighborhood mini-parks and playgrounds near each respective alignment. The San Jose Alignment would offer access along the entire eastern boundary of Balboa Park and especially to the public swimming pool.

D. MITIGATION MEASURES

If the project is constructed and becomes operational the following mitigation measures will be done.

1. Land Use and Urban Design

Scheduling and methods of construction will be designed to minimize interference with access to properties adjoining the chosen alignment and to reduce effects of construction dirt and noise.

To mitigate visual impacts of the completed alignment, the overhead wires will be hung wherever possible from existing overhead utility and street lamp standards.

2. Public Services and Utilities

The police and fire departments and emergency ambulance services will be made aware of any temporary traffic detours established during construction.

Trenching near water mains will be hand dug to maintain cover required by the Water Department.

3. Transportation

For the San Jose Avenue Alignment, signalization will be revised at the San Jose Avenue-Randall Street intersection to minimize congestion.

4. Air Quality

Dust pollution during construction will be controlled by watering exposed surfaces, restricting traffic on unpaved surfaces, covering trucks loaded with dirt and minimizing the period during which soils are exposed.

Scheduling construction to minimize interference with traffic flow will be done to minimize local pollution during construction.

5. Noise and Vibration

Nonrigid track construction methods could be used to reduce vibration along the alignment. If engineering design analysis shows this to be a serious problem, the project will be designed to reduce the vibration levels below background levels.

6. Energy

Reducing the energy costs of operation could be accomplished by increasing headways, omitting the loop at the Metro center terminus from the transit routes (i.e., continuing the J- and M-Lines) and/or stopping the J-Line at 30th Street and turning every other car back towards downtown. The combination of the J/M-Lines has been incorporated in the preferred alternative. The other operational mitigation measures will be considered by MUNI to achieve an acceptable balance between transit service goals and energy conservation.

7. Geology and Seismicity

A geotechnical study of the selected alignment will be necessary to identify any localized geologic hazards which might affect the rail bed. Foundation studies will be carried out and their recommendations followed where grade modifications are proposed, particularly in filled areas. Construction will be performed to meet all appropriate engineering design requirements, thus reducing the potential for slumping or settlement.

Backfill will be compacted to reduce the potential for future settlement.

Revegetation of slopes disturbed during grading will be done to retard soil loss and impart limited stability for earthquake-induced landsliding. An inspection by a geotechnical engineer of existing landslide areas will be made to assess the need for restablizing any recent landslides along the selected alignment, particularly in the designated landslide hazard zone north of Balboa Park.

Should signs of structural weakness in the Stanford Heights Reservoir appear, MUNI officials will be alerted through the Emergency Plan for the City so that precautions can be taken.

8. Hydrology

Siltation of the City storm drain system will be minimized by screening drain inlets. Any surfaces exposed during the rainy season will be covered to minimize erosion and siltation of storm drains.

E. AREAS OF CONTROVERSY

Community concern has been centered around the issues of noise and vibration, disruption of neighborhoods by LRV service, potential impacts to the palm trees on Dolores Street, and traffic safety through the I-280 underpass and whether the bike path in the Bernal Cut should be retained.

F. ISSUES TO BE RESOLVED

The principal issues to be resolved are whether to build the J-Line Connection and what will be the source of financing and the level of Federal funding for the locally preferred alternative.

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I. INTRODUCTION

Enclosed is the Final EIS for the MUNI J-Line Connection Project. Changes to the Draft EIS in response to public comment are minor. As authorized by 40 CFR 1503.4(c), a full reprint of the Draft EIS re-entitled Final EIS will not be circulated. The Draft EIS will be filed with the EPA, along with the enclosed document. Responses have been prepared to the comments made by the public and by public officials on the Draft EIS/EIR and these are included here along with specific changes which have been made to the DEIS/EIR in response to comments or to correct errata. In order to give a complete understanding of the proposed project and associated environmental impacts, it will be necessary for the reader to review both the Draft EIS/EIR and this addendum. Changes to material in the Draft EIS/EIR are indicated in the addendum with **bold** typeface.

II. DESCRIPTION OF THE LOCALLY PREFERRED ALTERNATIVE

A. FUNCTION AND PURPOSE OF THE J LINE CONNECTION

The San Francisco Municipal Railway (MUNI) operates five high capacity streetcar lines which have been recently modernized and upgraded. The J-Church, K-Ingleside, L-Taraval, M-Oceanview and N-Judah lines constitute an important element of the downtown-oriented radial service to and from the Twin Peaks and Sunset areas of the City. It is typical of radial routes that there is a heavy directional demand on these lines for inbound service during the morning commute hours and for outbound service during the evening commute hours.

To meet these demands efficiently, extra vehicles are added to serve critical commuter passenger volumes. Service originating at the outer line terminals is supplemented during the morning commute, as is afternoon service originating at The Embarcadero Station. Placing these extra cars into service and removing them from service after the commute hours produces additional operational costs in the form of vehicle usage and employee time. On the N and J lines, the Metro LRVs (light rail vehicles) are stored in the car barn located at San Jose and Ocean Avenue (see Figure 1, page 4); from there, they must travel the K-line route through the Twin Peaks Tunnel to The Embarcadero Station and then to Judah Street or to 30th and Church Streets. This movement of the vehicles is known as "pulling out" and "pulling in."

MUNI has determined that the J-Line Connection project is needed for the following reasons:

1. Revenue service would provide a connection linking the Mission District with the southern portion of the City. If J-Line service were extended past Balboa Park over the M-Line as proposed, J-Line riders could continue not only to Glen Park and Balboa Park, but also to San Francisco State University and the Stonestown Shopping Center.

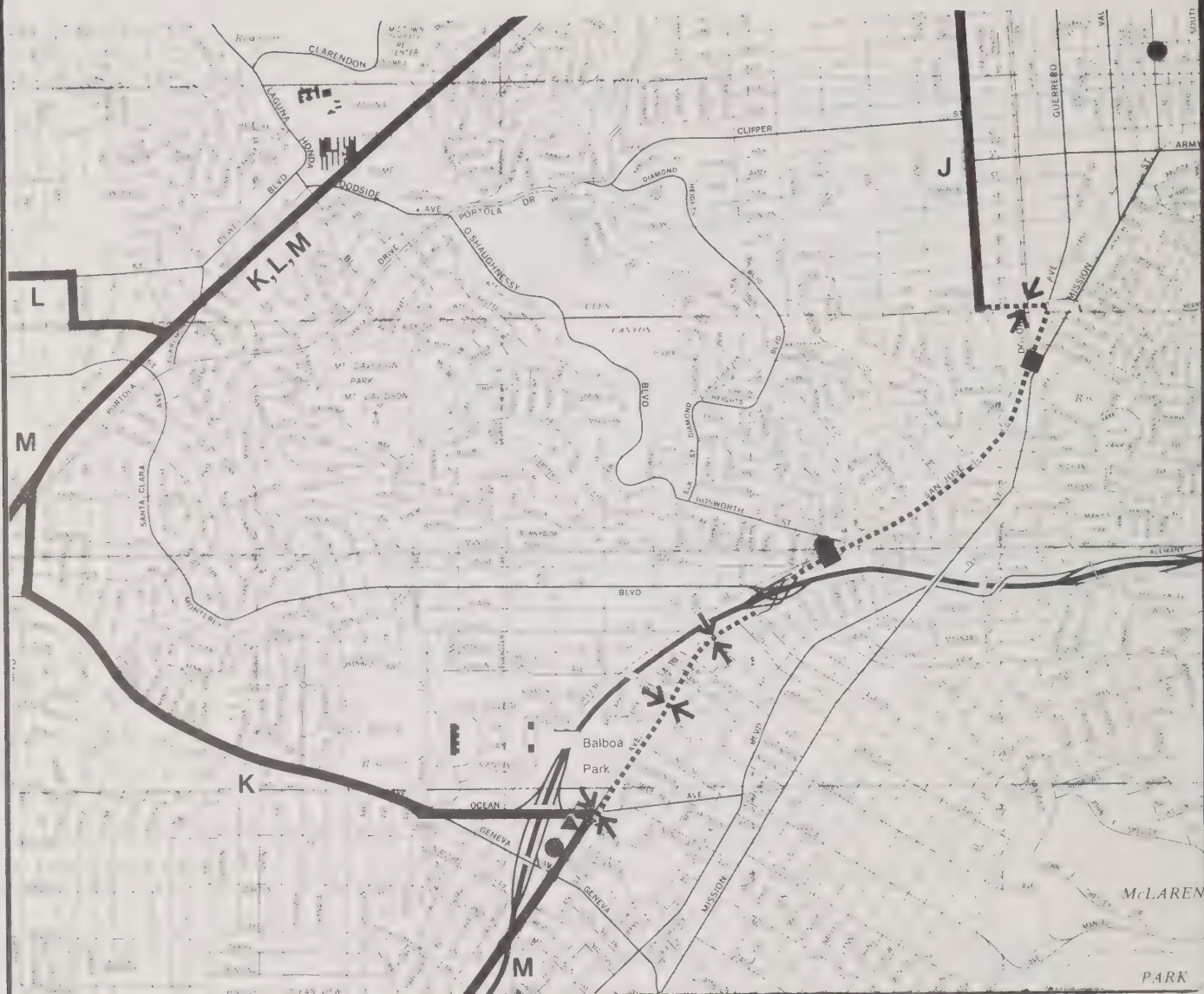
2. Additional service to riders at lower costs to MUNI. Allowing J and N cars to be placed into and taken out of service via the J-Line Connection would provide the convenience of additional peak-period service to J-Line riders while reducing MUNI's operating costs. In addition, by providing service on the J-Line to a larger area of the City, MUNI may be able to justify increased service levels, resulting in shorter waiting times, particularly in off-peak hours.
3. Provision of a K, L and M detour route. In the event of a line blockage in the Twin Peaks Tunnel, K, L and M cars would have an alternate route available to and from the Market Street subway via Church Street.
4. Reduction of impacts on Chenery Street, Ocean Avenue and West Portal Avenue. Impacts on Ocean Avenue and West Portal Avenue resulting from operation of all J and N, as well as K and L, pull-in and pull-out cars would be reduced. In addition, the 26 diesel coach line would become a more community-oriented service, reducing noise and other impacts of motor coach operation on Chenery Street.
5. Improved service for Glen Park. At Glen Park the line as proposed would connect with four other MUNI lines and BART. Glen Park residents would have direct Metro service both to downtown and to San Francisco State and Stonestown.

B. DESCRIPTION OF LOCALLY PREFERRED ALTERNATIVE: SAN JOSE AVENUE ALIGNMENT

Alignment Characteristics. The San Jose Alignment for the J-Line Connection would be routed from 30th and Church Streets via 30th Street and San Jose Avenue to the Metro Center at Ocean Avenue. The 2.3 mile double track alignment is shown in Figure 1.

The tracks would be located in the center or median of the existing streets (see Figure 2). North of the San Jose Avenue and Dolores Street intersection and south of Theresa Street the track area would be paved and would share its right-of-way with motor vehicle traffic. On San Jose Avenue between Dolores and Theresa Streets the track would be constructed with an exclusive high-speed right-of-way.

The bike path through the Bernal Cut would be eliminated (see Figure 2b). The bike path is identified in the transportation element of the Comprehensive Plan as a transportation



..... SAN JOSE AVENUE ALIGNMENT

———— EXISTING STREETCAR ROUTES

K



BART STATION



MUNI METRO CAR BARN



STOPS

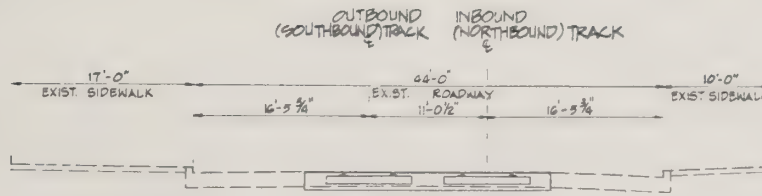


J-LINE STATION

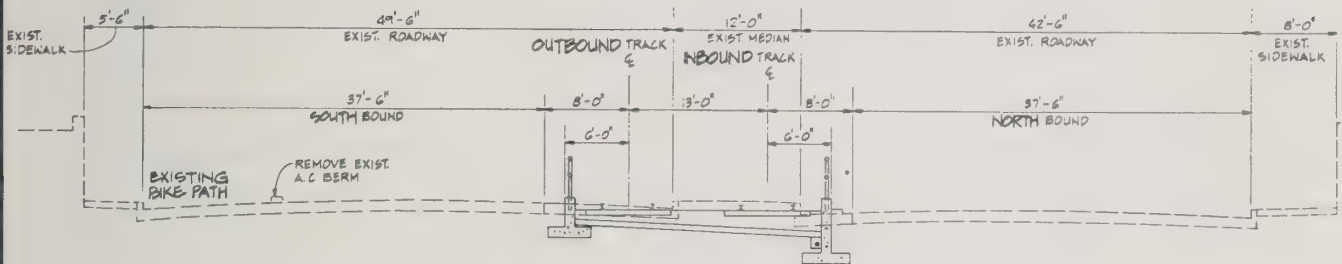
**Locally Preferred
Alternative Alignment**



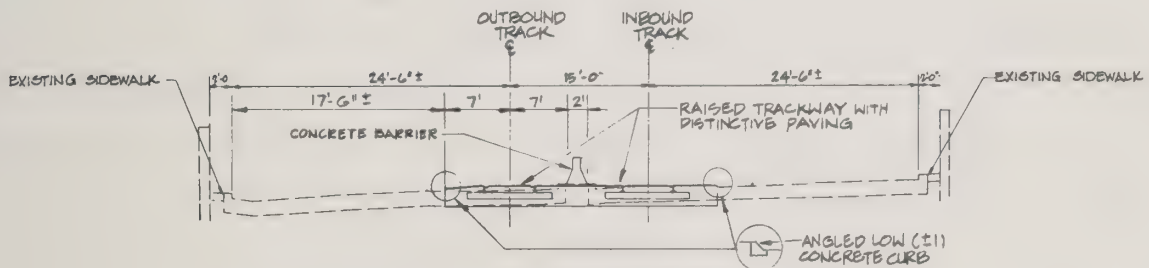
Figure No. 1



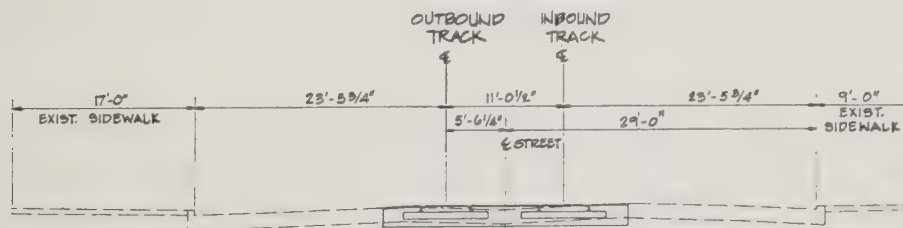
a. 30TH ST. AT DOLORES ST.



b. SAN JOSE AVE. IN BERNAL CUT NORTH OF HIGHLAND AVENUE



c. SAN JOSE AVE. AT I-280 UNDER CROSSING



d. SAN JOSE AVE. AT PAULDING ST.

Typical Cross Sections

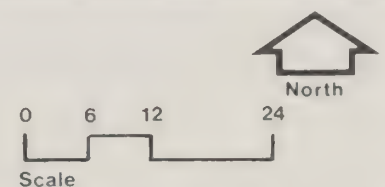


Figure No. 2 a-d

corridor and an alternative transportation mode. It is not identified in the plan as a "recreation area." The Department of Public Works has been consulted and they view the bike way as a route and not a recreation area, therefore, Section 4(f) Evaluation is not applicable in this situation.

Current design provides for transit stops at the following locations (shown in Figure 1): 30th Street at Dolores with on-street loading; a station on San Jose Avenue at Randall Street with a pedestrian platform (see Figure 3), and a station in Glen Park with a grade-separated pedestrian connection to the Glen Park BART station (see Figure 4); and three low-level platform stops on San Jose Avenue between Baden and Pilgrim Streets, between Paulding Street and San Juan Avenue, and at Ocean Avenue. An additional station stop on San Jose Avenue at the Miguel Street/Richland Avenue overcrossing may be considered in the subsequent preliminary engineering stage of the project.

MUNI's Five-Year Plan calls for interlining the J and M lines to form a loop route. South of Ocean Avenue, the J-M loop line would operate on the existing M-Line tracks on San Jose Avenue. The existing stop at Geneva Avenue would serve the Balboa BART station. The J-M loop line would provide J-Line use with direct access to San Francisco State University and Stonestown Shopping Center.

The J-M loop line would provide operational savings by more evenly balancing ridership to better utilize existing capacity. The loop would also simplify cross-town trips possibly reducing transfers and thereby encouraging ridership. The J-M line would duplicate the existing 26-Valencia diesel bus line, and thus the Five-Year Plan calls for terminating the 26 line near Glen Park to eliminate the duplication.

The trackway in the areas of exclusive right-of-way would be on ballasted track with center poles supporting the trolley wire. In the sections where the LRV shares the roadway with motor vehicles, the track areas would be paved and the overhead wire would be supported by poles along the side of the streets.

The San Jose Alignment would reduce the traffic level of service marginally at several locations, but only at Randall Street would the impact produce congestion or poor operation. Should the project be constructed, signal phasing could be adjusted to improve

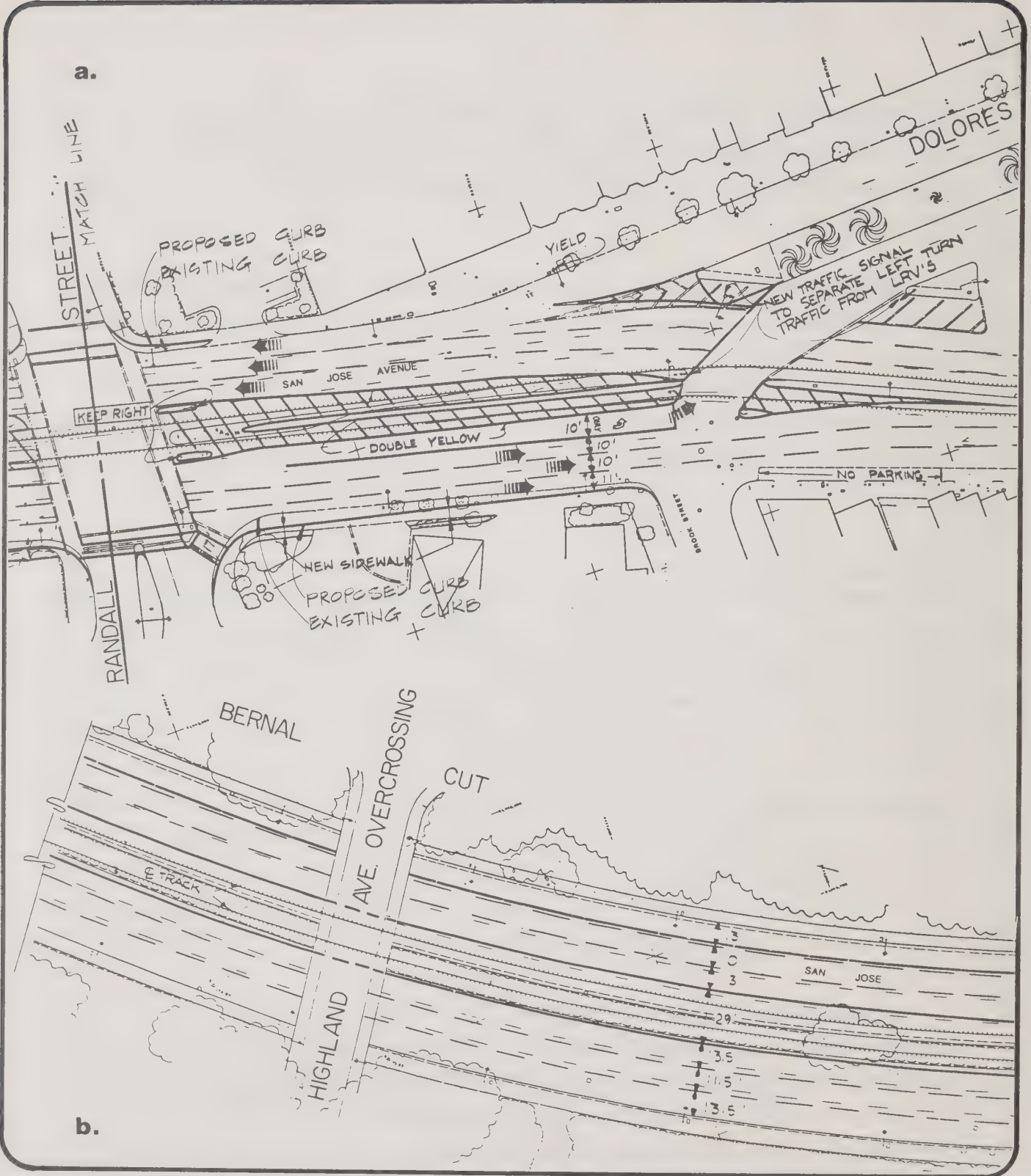
transit capacity at the intersection. These traffic signal changes would slightly improve the traffic operations, but would not mitigate them to the existing conditions. The only other measure is not to include a station at Randall, but this is considered to be an integral part of the project.

There are two intersections where cross traffic would materially be affected. These are 30th Street with P.M. peak volumes of 100 vehicles per hour (vph) and Randall Street with 150 vph.

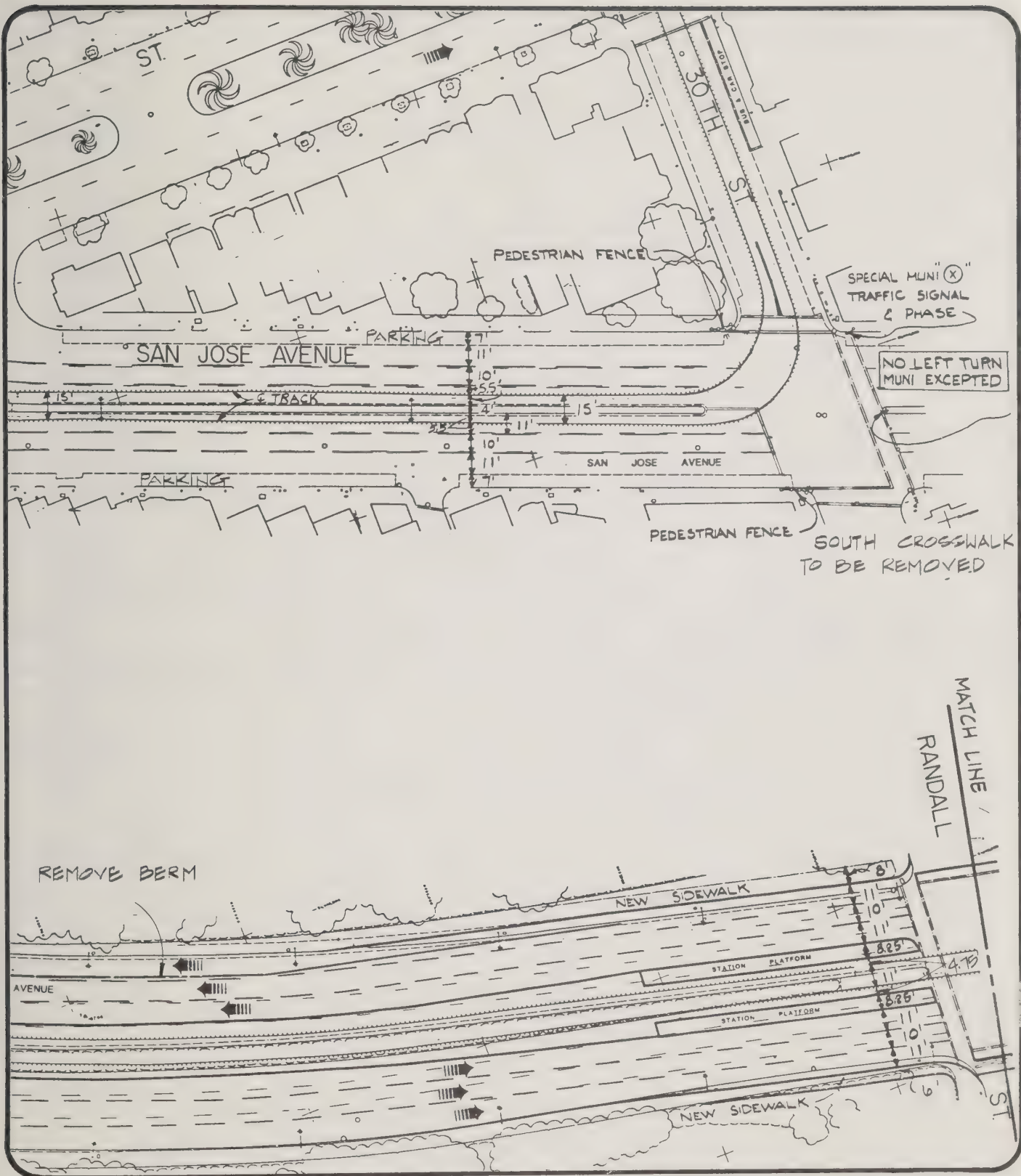
The alignment would also eliminate an estimated 45 street parking spaces: four north of Randall Street, 25 between Randall and I-280, and 16 south of I-280. Much of this parking is not currently marked and is not used heavily.

Costs of Construction and Operation. The preferred alternative would cost \$10.9 million (1982 dollars) to construct, not including a station on San Jose at Richland Avenue. The cost of vehicles required to operate on the connection would depend upon the length of headways. With six-minute headways, vehicle costs would be \$4.8 million. MUNI has analyzed ridership along the route and can efficiently concentrate service by turning cars back along more heavily traveled segments and running 12-minute headways during off-peak periods along segments where less demand is present. On the M-Line this would occur south of Holloway while on the J-Line every other car would be turned back at 30th Street and would therefore run at 12-minute headways south of that point. If the 12-minute headways are instituted on these portions of the line, vehicle costs would be \$2.4 million. The useful life of the connection is estimated to be 45 years while the vehicles can be expected to function effectively 30 years.

The operation and maintenance costs for the alternative would also vary with the operational characteristics of the line. With six-minute headways, the connection would cost \$730,000 annually to operate and maintain, but would increase annual revenues \$910,000 to \$960,000 through increased patronage and operating savings related to shortened pull-in/pull-out distances. The net annual operating savings would range from \$180,000 to \$230,000. With a portion of the line operating at 12-minute headways, operating costs would be reduced and overall savings would increase to \$270,000 to \$320,000. Comparable total operating costs for LRV service in the entire MUNI system

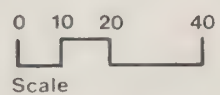


Randall Street Area



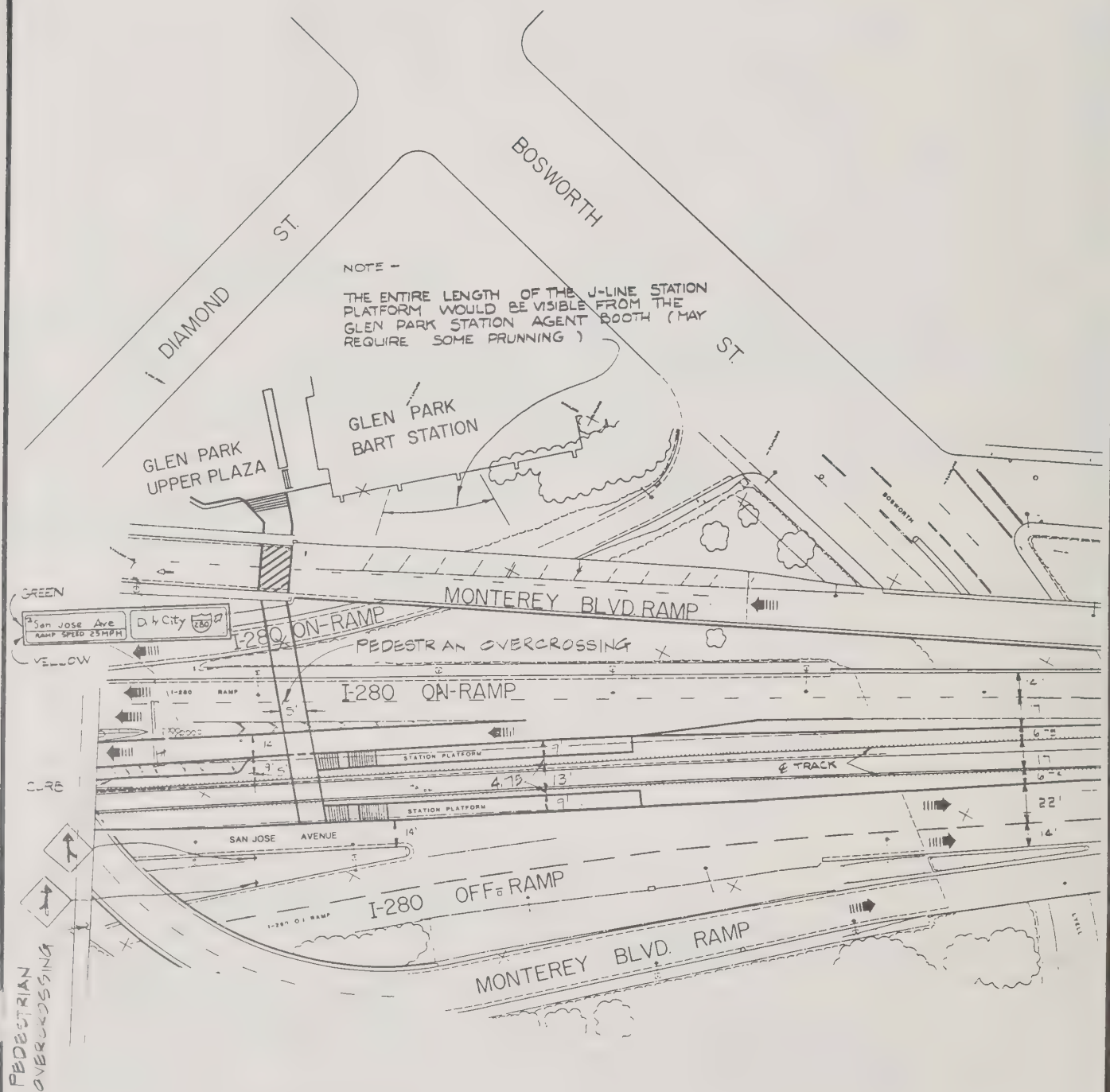
a. SAN JOSE AVENUE ALIGNMENT -
RANDALL STREET TO 30TH STREET

b. RANDALL STREET STATION AREA



North

Figure No. 3 a&b



Glen Park Areas

0 10 20 40
Scale



Figure No.4

are about \$21 million. Savings from the project would amount to 1% to 1.5% of these costs.

The San Jose Avenue Alignment would return greater cost savings than the other two alignments because it is a shorter line and would operate at greater speeds. Therefore, the operating time would be less, reducing labor and energy costs. Also, track and vehicle maintenance costs would be less because fewer vehicles are required to operate on the shorter track.

The overall economic return on the investment for the project to MUNI will depend upon the level of local, state, and federal subsidies to construct and operate the connection. It is not possible to know at this time what these subsidies will be.

Development Schedule. In the event that the project moves forward to the design and construction stages, a period of about 9 to 12 months would be expected to be required for the preparation and review of plans and specifications for bidding. About three months would be needed for preparation, review and approval of bids. Construction would take about two years. Some utility relocation could be completed prior to construction of the tracks.

C. REQUIRED APPROVALS

After certification of the Final EIR by the San Francisco Planning Commission and approval of the Final EIS by UMTA, the following approvals would be required to complete the project:

1. The San Francisco Public Utilities Commission must approve staff action to apply for, accept and expend state and federal funds for the project.
2. The San Francisco Board of Supervisors must approve action to apply for, accept and expend state and federal funds for the project.
3. A Master Plan referral must be made from the San Francisco Department of Public Works to the Department of City Planning regarding the elimination of the bike lane.

4. Caltrans must issue an encroachment permit, with the approval of the Federal Highway Administration, for use of the I-280 right-of-way.
5. The Metropolitan Transportation Commission (MTC) must approve applications for state and federal funding for the project. The MTC has already included the project in its Regional Transit Improvement Program.
6. UMTA and the State of California must approve funding for the project.

D. SELECTION OF THE PREFERRED ALTERNATIVE

A study of alternative plans that would reduce the unproductive movement of MUNI vehicles was prepared in the 1977 POM Study. That study noted particularly high operational costs associated with pulling-out and pulling-in on the J-Church and N-Judah lines. The inauguration of LRV traffic in the Market Street Subway eliminated use of the 11th Street "Y" turnaround, thus increasing the unproductive distance to be traveled per vehicle per day on the J-Line from 8.8 miles to 11.9 miles, and on the N-Line from about 10.8 miles to 14.6 miles.

To reduce these costs, six alternative plans to modify MUNI trackage or operations were analyzed. Alternative 1, the Van Ness Crossover, involved operational changes only. Alternative 2 to 6 involved new track linkages. Alternative 3, the San Jose Avenue Alignment, is examined in this EIS/EIR. A complete examination of MUNI's pulling-in and pulling-out operations and a preliminary investigation of the six proposed alternatives can be found in the 1977 POM study.

Alternative 1 of the POM study entailed using the crossover facility west of the Van Ness Station in the Market Street Tunnel. This proposal was rejected for several reasons: the reversing procedure could have potentially disrupted regular service; the plan would not relieve traffic in the Twin Peaks Tunnel nor offer alternative routing flexibility should the tunnel be blocked; safety and personnel factors weighed against this alternative; finally, it would add no new revenue service to the system.

Alternative 2 proposed using the existing 17th Street surface tracks to reduce the distances currently involved in pulling in and pulling out and to eliminate congestion and potential passenger-service disruption in the Market Street Tunnel. This plan was also

rejected for a number of reasons: it would fail to relieve traffic in the Twin Peaks Tunnel; it would necessitate a complex interface with the Market Street Tunnel signal system; it would reintroduce rail vehicles to street traffic at the Market Street intersections of Church and Castro Streets; and it would fail to generate revenues.

Alternative 3 proposed new track and overhead wire along San Jose Avenue from existing J-Line terminal at 30th Street to the MUNI car barn at Ocean Avenue. This alternative was selected by the POM study consultants because it provided a shorter pull-out/pull-in time and distance for the J and N lines and reduced traffic and potential delay in the Twin Peaks and Market Street Tunnels by rerouting such operations outside of the tunnels. This alternative also offered an emergency rerouting possibility for traffic on the K, L, and M lines if the Twin Peaks Tunnel were blocked or otherwise out of service. The consultants recognized in this alternative the potential for revenue service along the J-Line Connection, as well as eliminate the potential service on parts of the 26 coach line. The possibility of a J-M double through-loop was also evaluated. This type of connection would allow J-Line cars to continue onto the M-Line (and vice versa) without having to turn around at the car barn.

Alternatives 4, 5 and 6 dealt with possible track linkages between the L-Line and the N-Line at Sunset Boulevard, at 46th Avenue and at the Lower Great Highway, respectively. While the specific reasons for rejecting each alternative varied somewhat, the considerations involved: significant reduction of traffic flow; elimination of parking spaces; possible safety problems associated with driveways and LRV traffic; failure to eliminate track conflicts at the West Portal Tunnel entrance; incomplete reduction of out-of-service traffic in the Twin Peaks Tunnel; and failure to generate revenues. In the case of Alternative 6, there were noticeable visual and other impacts on the Lower Great Highway and the lineal park, as well as safety problems associated with interfacing a single-track line segment with double-track lines.

The Draft EIS analyzed Alternative 3 above, and two additional alignments on Monterey Boulevard and Mission Street. These later alternatives were devised in response to community concerns raised at a public scoping meeting. They are described below.

Monterey Boulevard Alignment Alternative

This alignment would be routed from 30th and Church Streets via 30th Street, San Jose Avenue, Monterey Boulevard, Genessee Street, Judson Avenue, Phelan Avenue and Ocean Avenue, and would be 3.3 miles in length.

Mission Street Alignment Alternative

This alignment would be routed from 30th and Church Streets via 30th Street, Mission Street and Ocean Avenue, and would be 2.5 miles in length.

Selection Criteria. The San Jose Avenue alignment has been selected as the locally preferred alternative as a result of the evaluation in the EIS. The critical criteria for selection include the economic benefits of the San Jose alternative and the greater environmental impacts associated with the other two alternatives.

The San Jose alternative would require lower capital expenditures and would achieve savings in operating costs. This latter benefit is of particular local concern since MUNI operations are subsidized by local tax payers with an ad valorem tax.

The Monterey Boulevard alternative would impose greater impacts upon neighborhoods in terms of noise and loss of parking spaces because the streets along this alignment are generally narrower.

The Mission Street alternative would provide very slow transit service since the route runs along a heavily developed commercial corridor. The alignment would remove street parking for which there is no substitute since this is an older commercial area and parking is not otherwise available for existing retail businesses. The alignment would also interfere with and duplicate existing transit along the corridor.

MUNI's Five-Year Plan specifies the San Jose Avenue alignment as the appropriate route for the J-Line Connection and Muni's route restructuring program is predicated upon this alignment. The San Jose Avenue alignment would not duplicate any existing transit service as would the other two alternatives.

III. RESPONSES TO COMMENTS ON THE DRAFT EIS/EIR

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Introduction

The comment period on the Draft EIS was from October 7, 1982 to December 17, 1982 . A public hearing was held on December 16, 1982. Fifteen individuals and agencies made substantive written and oral comments on the Draft EIS and responses to these comments are presented in this section.

Project Description

COMMENT

1. Bruce Bonacker, Glen Park Association

On page i of the Draft EIR/EIS, it is stated that, "MUNI also proposed operationally to interline the J- and M-lines to form a loop route."

Does this mean MUNI would like to, plans to, expect to, or will be making this change?

RESPONSE

MUNI's five-year plan identifies the J- and M-interline as a desirable adjustment to current operation. Therefore, MUNI plans to implement the proposal at its earliest opportunity.

Land Use and Social Impacts

COMMENT

2. Bruce Bonacker, Glen Park Association

The report states that these would be no direct impact on existing land uses and zonings. This may be true, but there would be plenty of impact on adjacent land uses and zonings and these should be addressed.

What data is the statement that the population in the project area is expected to remain stable based on? Others might disagree. What were the population changes which occurred during the early 1960s.

The report states that because pressure for increased residential density was not apparent as a result of BART, such pressure should not result from this project. But pressure on housing demand was no where near as great than as it is now.

RESPONSE

The DEIS concludes that the proposed project would not significantly affect existing land uses and zonings in the neighborhoods along the alignments for a number of reasons. The following discussion replaces paragraphs four and five on page 62 of the DEIS.

"There is no open land along any of the corridors. The major vacant land in the affected neighborhoods is located at the tops of the hills and is unbuildable either because of steep slopes or because it is dedicated as park open space. Much of the San Jose and Monterey Boulevard alternatives run along the Bernal Cut, which is not developable, and development along these routes is further constrained by their proximity to major public uses such as the freeway, Balboa Park and City College. Additional development would therefore require demolition of sound housing stock and even then would only result in slightly higher densities under the existing zoning. At the current housing price levels, this would not make economic sense. The last comprehensive residential rezoning effort culminated in 1978 after a four year process, and is not likely to be repeated again for at least 10 years. The City Planning Commission would not be receptive to moves to sporadically rezone to higher densities or to commercial uses since such spot zoning has been found illegal.

"The population and housing trends in this district and through-out the city reinforce this land use analysis. The population of the City of San Francisco has been declining for the past twenty years. The DEIS notes the 5.1% decline between 1970 and 1980, but between 1960 and 1970 the City's population had declined an additional 3.3%. Table A shows the population of the J-Line Connection corridor during these two periods. The corridor population decreased by nearly 2,800 persons between 1960 and 1970, but then rebounded to gain 908 persons by 1980. (Note that the reason the DEIS indicates an increase of only 84 people from 1970 to 1980 is because census tract 262 is not included. Census tract 262 is not adjacent to any of the alignments, but is included here to incorporate the 1960 data because 1960 census tract M-0008 includes both census tracts 261 and 262 as redesignated in 1970.)

"There is little consistency among the tracts within the study area during the two decades. Population in the northern census tracts (215 and 253) of the area in the Noe Valley and Bernal Heights neighborhoods, respectively, declined over both periods but with differing trends. Census tract 255, also in Bernal Heights, increased in population from 1960 to 1970 and then declined by even more between 1970 and 1980, however. Other census tracts had uneven growth and decline patterns over the 20 year period.

"Residential development in the area suggests a somewhat stronger trend as shown in Table B. Again, between 1960 and 1970 adjacent census tracts alternately increased and decreased in their number of housing units. But overall, this decade saw a modest increase in total housing units, despite a large decrease in population. In the next decade, with a modest increase in population came a rather large level of new housing development. The 1,405 additional units in the study area represented nearly a quarter of new housing development in the City during 1970-1980 period. The result was steady decrease in the size of households in the area from 2.95 persons in 1960 to 2.67 in 1980. This figure remained well above the citywide 1980 household size of 2.16. The most extreme change occurred in census tract 215 which gained 261 housing units from 1960 to 1980, but lost 829 people during the same period. The number of persons per housing unit remained above 2.0 in 1980, however, from 2.68 in 1960.

"These data suggest that this area is experiencing trends very similar to the City as a whole, with some pressure for housing development but declining family size as lifestyles change. It is not clear that these trends are particularly correlated with transit and transportation development which occurred in this area in the mid-1960s. The fact that BART had no demonstrable impact on housing and demographic distribution is substantiated in the reports of the BART Impact Program, conducted by the Metropolitan Transportation Commission and sponsored by the U.S. Department of Transportation (DOT) and Housing and Urban Development (HUD).¹ High housing demand in San Francisco is a function of several factors including shrinking land availability and a growing employment base both regionally and within the City. These kinds of pressures are much stronger than are improvements in neighborhood transit systems and will likely continue whether or not the project is built."

¹Metropolitan Transportation Commission, BART in the San Francisco Bay Area: Summary of the Final Report of the BART Impact Program, Berkeley, December 1979, page 11.

TABLE A
CORRIDOR POPULATION

<u>Census Tract</u>	<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>1960-1970 Number Change</u>	<u>1970-1980 Number Change</u>
215*	6,060	5,983	5,231	-77	-752
253	4,457	4,051	3,780	-406	-271
254*	10,274	10,369	10,244	+95	-125
255	6,157	5,550	5,780	-607	230
256	3,829	3,738	4,563	-91	825
260*	13,051	13,051	13,168	0	117
261+262*	9,247	8,048	9,035	-1,119	987
311	5,700	5,706	5,662	+6	-44
312*	<u>6,558</u>	<u>6,066</u>	<u>6,007</u>	<u>-492</u>	<u>-59</u>
TOTAL	65,333	62,562	63,470	-2,771	908

*Census tracts partially affected by project alternatives.

Bureau of the Census, 1960 U.S. Census PHC (1)-137, 1970 U.S. Census PHC(1)-189, and 1980 U.S. Census STF-1A.

TABLE B
HOUSING UNITS IN THE CORRIDOR

<u>Census Tract</u>	<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>1960-1970 Number Change</u>	<u>1970-1980 Number Change</u>
215	2,260	2,399	2,521	139	122
253	1,551	1,460	1,610	-91	150
254	3,347	3,504	3,638	157	134
255	2,205	2,144	2,188	-61	44
256	1,245	1,259	1,454	14	195
260	4,179	4,308	4,495	129	187
261+262	3,145	3,003	3,268	-142	265
311	1,997	2,196	2,374	199	178
312	<u>2,187</u>	<u>2,094</u>	<u>2,224</u>	<u>-93</u>	<u>130</u>
TOTAL	22,116	22,367	23,772	251	1,405

Bureau of the Census, 1960 U.S. Census PHC (1)-137, 1970 U.S. Census PHC(1)-189, and 1980 U.S. Census STF-1A.

COMMENT

3. Bruce Bonacker, Glen Park Association

Why is Circular Avenue shown so heavy on Figure 3. This is confusing.

RESPONSE

This graphic technique is merely included to make Circular Avenue more legible on the map.

COMMENT

4. On page 23, last line, shouldn't the reference to Bosworth Street actually be Arlington Street?

RESPONSE

Residences are close to this segment on both Bosworth Street and Arlington Street.

COMMENT

5. Bruce Bonacker, Glen Park Association

Exactly what structures of the proposed project along Mission Street would be masked by existing trolley bus wires and the background of visual elements?

RESPONSE

The structures referred to are the overhead wires and support standards.

COMMENT

6. The impact of the San Jose alignment on the homes opposite Balboa Park could be solved by landscape design. What are MUNI's intentions here? This is not necessarily the greatest change in visual quality as the Report maintains. Looking at green space through wires is better than looking at buildings through wires.

RESPONSE

The DEIS states that the greatest change in visual quality occurs at Balboa Park because the park affords a less densely urban view for adjacent residences than the views along other segments of the routes. Landscaping could obscure, but not completely screen the view of overhead wires. MUNI does not propose any additional street landscaping.

Compliance with Existing Plans and Policies

COMMENT

7. Bruce Bonacker, Glen Park Association

It should be verified whether in fact the Transportation Element of the Comprehensive Plan has been accepted by the Board of Supervisors.

RESPONSE

Section 3.524 of the San Francisco City Charter specifies that development and maintenance of The Comprehensive Plan and its elements is the function and duty of the Planning Commission, which has adopted the Transportation Element.

COMMENT

8. Would the handicapped also gain greater accessibility to Balboa Park with the project in line with the policies of the Citywide Recreation and Open Space Plan?

RESPONSE

Under current plans, the project would not provide greater accessibility for handicapped persons. MUNI has been testing handicapped lifts on LRV's although they have not been installed on all vehicles as part of regular service. It is possible that this service would be available on the J-Line Connection at some point in the future.

Economic Impacts

COMMENT

9. Luther Freeman, MUNI Transit Planner

The project cost is amortized over a 30-year life (page 75) when it is stated on page 142 of the report that "... the connection may actually function as long as 50 years." It is common for major capital facilities to use 45 or 50 years for amortization. For example, in "Urban Rail in America," Boris S. Pushkarev recommends 45 years¹ as an appropriate economic lifetime of surface light rail facilities, with a range up to 75 years for other rail transit modes.

¹Urban Rail in America: Exploration of Criteria for Fixed Guideway Transit by Boris S. Pushkarev et al, Indiana University Press in association with The Regional Plan Association, Bloomington 1982, exhibit 2.13 and page 111.

From a cost-benefit point of view, the question to build or not to build could be significantly influenced by whether the costs are amortized over a 30 or 50 year life span.

RESPONSE

The following text and table will be inserted on page 75 at the end of the Fiscal Analysis section." Table 10a indicates the fiscal impact of the project assuming a useful life for the connection of 45 years and a useful life for the rolling stock of 30 years. This improves the net savings generated by San Jose Avenue alternative and worsens the performance of the other alternatives. As in Table 10 , capital cost figures assume an 80% federal subsidy. In this analysis, the San Jose Avenue alignment would require a minimum federal assistance for 52% of the capital costs in order to return net savings."

Public Services and Utilities

COMMENT

10. Marian Aird, J.O.S.E., C.O.M.O

There are several statements in this Draft which I consider grossly inaccurate. Among them is that the public park and recreation facilities along the proposed routes, any of the proposed routes, would not be affected by this intrusion of LRV's into the community.

Primarily, Balboa Park, which is a wedge of land between San Jose Avenue and Interstate 280; that park is used, the playground facilities are used, the tennis courts and swimming pool at Balboa Park are used, primarily in the case of children, by those who live on the other side of San Jose Avenue.

The decibel range shown from 40 feet from San Jose Avenue was 74, which I consider inappropriately high.

RESPONSE

The access of children to Balboa Park would not be hindered by LRV service along San Jose Avenue. The LRV's travel at a somewhat slower speed than auto traffic and would in fact tend to reduce traffic speeds along the street. The primary activities

available at Balboa Park are outdoor fieldsports such as soccer and softball and indoor swimming. The noise levels in Balboa Park are higher than would be considered optimum for an urban park; however, these noise levels do not significantly interfere with outdoor sports activities or swimming. Insofar as the J-Line connection project is concerned, the noise levels would be reduced slightly in the park as a result of this action.

COMMENT

11. The egress and entrance to Ingleside Police Station is along Sergeant John V. Young Lane to San Jose Avenue through Balboa Park. I would not like to entertain the consequences of an electricity power failure in that neighborhood and LRV's blocked up along San Jose Avenue and hindering our police officers from doing their work and handling emergency situations in our neighborhood.

RESPONSE

Emergency police calls are generally responded to by patrol cars in the field. Police cars leaving from the police station could experience delay in emergency response time should LRVs stall at the intersection of Sergeant John V. Young Lane and San Jose Avenue.¹ However, since the LRV's will run in the median rather than the curb lane, such delays would only result from unusual turning movements and would not be lengthy.

COMMENT

12. Father John Kavanaugh

I think that if the street cars, the LRV's, were to go down Phelan Avenue, it would be extremely difficult, because of the present congestion, for fire protection.

For a fire engine to come up that area -- it's the only street it can come up to protect the houses and schools that are in the Sunnyside area. If there were a -- God forbid -- if there were a fire at Sunnyside School, it would turn into a catastrophe and holocaust because fire engines just could not get there.

There are buses there at times for handicapped children, and it would be extremely difficult for fire engines to get there.

¹Sergeant James Farrell, S.F. Police Department Crime Analysis Unit, telephone conversation, January 31, 1983.

RESPONSE

The fire department anticipates no delay in emergency response time due to the presence of LRVs on Phelan Avenue.¹

Transportation

COMMENT

13. Bruce Bonacker - Glen Park Association

How would the J-Line connect with the other MUNI bus routes and BART at the Glen Park BART Station?

RESPONSE

An LRV station in the median of San Jose Avenue next to the Glen Park BART Station would require a pedestrian grade separation over the fast flowing traffic lanes. Because of clearance requirements, there would be a 20 to 25-foot vertical distance between the pedestrian bridge and the platform. The center of San Jose Avenue is about 200 feet from the BART Station southside plaza. The design phase will address the safety and accessibility concerns. Figure 4 illustrates the design for the Glen Park area.

COMMENT

14. Service from Glen Park, Bernal Heights and Noe Valley should be provided to the Sunset District, not only to San Francisco State and Stonestown, but also to City College. We feel that there may be more demand for the City College connection and therefore urge you to study which interlink (J/M or J/L) is most appropriate.

RESPONSE

The diesel coach 10-Line connects Glen Park with the Sunset District and Bernal Heights. The commenter is probably referring to the K-Line that serves City College on Ocean Avenue and not the L-Line that operates on Taraval Street. MUNI's 5-Year Plan is to connect the J- and M-Lines, rather than the J- and K-Lines. The rationale is that a J-M interline would give Mission Corridor residents direct access to two major generators: San Francisco State College and Stonestown Shopping Center;

¹Chief Edward Phipps, Assistant Chief, Support Services, San Francisco Fire Department, telephone conversation, January 31, 1983.

whereas, a J-K interline would serve only one major generator, City College. In addition to the 25,500 regular faculty, staff and students at S.F. State, the J-Line connection would also serve the significant cultural events staged at the University. The 12 trolley coach line already gives the Mission Corridor direct access to City College. The current 26 bus connection to San Francisco State University would be replaced by the J-M connection; whereas it would be lost by a J-K connection. (See pages 96-97.)

The route restructuring goal of MUNI 5-Year Plan route is to provide for most residents, city-wide accessibility with a maximum of one transfer, which is the current situation between City College and Glen Park.

COMMENT

15. On page 11, under "Traffic Circulation" the statement "Reduced traffic level of service" is confusing.

RESPONSE

This means traffic conditions would be degraded. Please see Appendix, page A-11 and 12 for a more complete discussion of these terms.

COMMENT

16. On page 11 under "Transit Impacts" the statement starting with "Duplicating existing service routes..." is confusing.

RESPONSE

Simplified wording would be: "Duplication of existing transit routes improves transit service along that segment, but diverts resources that could be used more efficiently on transit routes elsewhere in the city". It should be noted that this impact related only to the Monterey and Mission Alignments. The text of Table 1 on page 11 has been changed to describe which portions of which routes the J-Line would duplicate.

COMMENT

17. Would the south crosswalk at San Jose Avenue and 30th Street be repositioned or eliminated?

RESPONSE

The track geometry of the curve requires the raised center median to be moved southward thus eliminating the present safety refuge for pedestrians (see Figure 3); hence the need to eliminate this crosswalk. The concern is that elderly and handicapped pedestrians would not be able to walk across the street during one signal phase. Pedestrians will still be able to cross San Jose Avenue at 30th Street using the northern crosswalk. Further, field observation seemed to indicate that the northern crosswalk was the favored pedestrian route.

COMMENT

18. When will the Fast Pass be accepted on BART?

RESPONSE

The use of the Fast Pass on BART is currently in serious negotiation and it is not possible to determine when it will occur.

COMMENT

19. Marion Aird, J.O.S.E., C.O.M.O.

The original alternative discussed at the meetings was past the Glen Park BART Station, Circular Avenue, Judson to Ocean; not Monterey Boulevard, Genessee and Foerster, which are very narrow streets. As far as this line providing service in this area, that is a gross inaccuracy. It is not providing a needed service. It is providing service for the people who live on the other side of town.

RESPONSE

As the alignments were investigated, it was discovered that both Circular and Judson Streets have grades in excess of the nine percent maximum for LRV's. A new west alignment was developed along Monterey and Genessee to avoid the grade problem. The steepest grades on Circular, Judson, Monterey and Genessee are respectively 9.6%, 11.8%, 7.8%, and 8.9%. The J-Line connection would add local service to downtown which BART does not provide, enhancing the transit benefit to neighborhood residents.

COMMENT

20. Ruth Gravanis (74 Mispah Street)

North of Glen Park on San Jose Avenue, consideration should be given to creating a stop at the Richland or Highland Street Bridges.

21. Marion Aird J.O.S.E. & C.O.M.O

A platform in the Bernal Cut would be convenient, but "we were informed by MUNI Planning that it was completely impractical..."

22. Bruce W. Bonacker, Glen Park Association (General Comment B)

We urge you to provide stations for boarding the streetcar at the bridges across San Jose Avenue in the Bernal Cut. Otherwise you are missing a potential service which would be permanently lost. The Draft does not speak to this issue and we think this a failure.

RESPONSE

The current design does not preclude the addition of these station stops. In the initial study, station stops in the Bernal Cut at the existing Highland or Richland Avenue Bridges were rejected because the heights of the bridges over the street would make for extra long stairway access. The long climbs (35-40 foot rise at the Richland Avenue Bridge) would reduce the patronage demand. For comparison, the typical stairs at the MUNI Metro Market Street Stations are twenty feet between the platform and the mezzanine levels. The traffic impact of a station would be the loss of one traffic lane on San Jose Avenue, and an estimated reduction in traffic level of service from C to D. An alternative station design with escalators would cost over \$400,000, would serve an estimated 300-500 persons a day, and would delay through passengers on the high speed section of the route.

The addition of a station is a policy decision which could be considered by the PUC during the course of the design stage of the project.

COMMENT

23. Father Kavanaugh, St. Finn Barr's Church

It is a constant complaint of everybody in that neighborhood about the parking. With 28,000 students at the City College, parking is just unavailable in that neighborhood, and to remove any parking spaces, I think would be a serious mistake.

RESPONSE

It is City policy to serve major activity centers such as City College with transit in order to reduce the need for parking. In any case, the loss of 10 to 20 spaces in

relation to the thousands of spaces currently available at City College would be minimal. In addition, the added transit riders would be more numerous than the parking spaces lost.

COMMENT

24. Between City College and the high school, there is a combined population of almost 30,000 people, and when both schools dismiss their students, it's the worst traffic jam I have ever seen. For a streetcar to be going down that street at that time, it just boggles my imagination what would happen.

RESPONSE

During class change times at City College the streetcar would be slowed by the congestion. It is City policy to provide transit service to help reduce the need for automobile trips.

COMMENT

25. Ms. Guidry, lives on Foerster Street

On Foerster Street there are a lot of kids that go to and from school every day. I live right on the corner and there are a lot of near misses with cars and the two buses already traveling there. I would just like to say that I don't think that that street would be a good idea for that line to be put on.

26. Mr. Cohen, 33 Foerster Street

Many evenings I can sit in my living room and look outside and see the 36 bus, also the 43 bus, trying to make a turn on Judson and Foerster where they cannot make the turn. There is just total chaos. Cars have to back up, buses are just coming to a complete standstill, and we have an opportunity to look at this through our living room. I can just imagine what it would look like if a J-Church line tried to do the same thing.

RESPONSE

In the evaluation it was concluded that Foerster was not suitable for LRV service because of its narrowness and its grade (12.0%). The studied LRV alignment is on Genessee Street and not Foerster Street. In order to improve the traffic flow along Foerster and Genessee Streets, the San Francisco Municipal Railway rerouted the two bus routes (36 and 43) to operate one-way: southbound on Genessee and northbound on Foerster.

COMMENTS ON RANDALL AND SAN JOSE AVENUE INTERSECTION

27. San Francisco Department of Public Works

The placement of the tracks in a separate right-of-way and loading islands would reduce the number of lanes from four to three on San Jose Avenue approaching Randall Street. This would reduce service levels from D to E during both peak periods. This reduction would have undesirable consequences which we do not find acceptable. San Jose Avenue carries over 38,000 vehicles a day and is considered a major traffic carrying street. As a point of comparison, 19th Avenue (State Route 1) carries between 40,000 and 50,000 vehicles. By reducing the street's efficiency, drivers will try alternate routes such as Mission Street which is already overloaded and also a major transit carrying street.

RESPONSE

The project is designed to provide high speed service through the Bernal Cut which would be an attractive alternative to auto transportation. MUNI's expectation is that the J-Line connection would gain a portion of its ridership from persons who currently drive the segment, thus reducing traffic. It would be inappropriate to assume existing traffic conditions in the analysis as DPW has done.

Further the operational flexibility and the added service to major trip generators including S.F.State University and the Stonestown Mall provided by the project would, in the judgement of MUNI staff, outweigh the potential impacts to traffic.

The City of San Francisco does have a transit first policy; however, resolution of this issue would most properly be made by the Transportation Policy Group (TPG), made up of the heads of all City departments that have a transportation concern. TPG was established to mediate exactly this kind of interdepartmental conflict.

COMMENT

28. Another problem with a station on San Jose Avenue at Randall is that the Class I bicycle path on the west side of San Jose Avenue would be eliminated. This path was established to connect the areas to the north and the downtown with the City College and southerly residential areas. This path is included in the Transportation Element of the San Francisco Master Plan. The impact of the path's removal is

that a good, relatively flat connection would be eliminated. All other streets in the area have grades and some (Mission Street) are congested. In addition, no other street could support a Class I bicycle path. We strongly suggest that the LRV stop, the proposed loading islands and the exclusive right-of-way be removed on San Jose Avenue approaching Randall Street.

RESPONSE

While it is true that the removal of the proposed LRV stop with boarding islands and exclusive right-of-way would mitigate the impacts on traffic, the result could make it more difficult for transit riders to transfer to and from the proposed J-Line extension. As discussed on page 98, the J-Line stop at Randall Street would provide the closest transfer location with the Mission Street trolley bus routes (9, 12 and 14). The next closest would be a stop at 30th and Dolores Streets, which would require a 700-foot walk including a grade to transfer to the Mission buses. It is estimated that more than 500 patrons a day would make this transfer.

One mitigation is to retain both the bicycle path and the station although this is not proposed by MUNI staff. In order to do this, a 400-foot section of narrow "walk-your-bike" sidewalk would be needed adjacent to the station and in the Bernal Cut, one traffic lane would have to be converted to a bicycle lane in order to both retain the bicycle path and the LRV tracks (a cross section of the Bernal Cut is shown in Figure 2b). This means that there would be three traffic lanes one way and two the other way on San Jose Avenue. Because of the existing retaining walls, widening San Jose Avenue is not feasible. Bicycle volume counts (see page 30) found four bicyclists per hour using this path.

The resolution of the conflict between bike lanes, LRV tracks and stations, and San Jose roadway lanes is most properly made by the TPG.

COMMENT

29. Federal Highway Administration

It is questionable whether the LRV's would present "few problems" regarding the volume of traffic on San Jose Avenue and/or Monterey Boulevard as stated on Page V. There would be significant traffic backups during the peak hours and this would encourage motorists to seek out alternative routes through local streets. This diversion needs to be addressed.

RESPONSE

The text has been changed to read as follows:

"For the San Jose Alignment, aside from the Randall Street intersection, the impact of the LRV's would present few problems regarding volume of traffic" (page iv). "For the Monterey Boulevard Alignment, aside from the San Jose Avenue/Randall Street and the Phelan/Geneva/Ocean intersections, the LRV's would present few problems regarding volume of traffic" (page v). If backups did occur, alternative routes for either of these two intersections are not easily possible. The street network at both locations is topographically restrained. Both are entrance points to the freeway system, therefore motorists would most likely tolerate small delays at these locations in order to get on or off the high speed freeway system, rather than make a long circuitous detour to another freeway entrance. For freeway bound traffic the only potential diversion is the on-ramp of Army Street with US-101, which is 1½ miles to the northeast.

COMMENT

30. San Francisco Department of Public Works

The proposal is to place two sets of tracks through the S-curve of the San Jose Avenue/I-280 undercrossing. We have experienced accident problems (out of control vehicles) in this "S" curve. In order to reduce accidents, we have flattened the curves by painting one lane in each direction with a barrier separating the two directions of traffic. This channelization has permitted more shoulder areas adjacent to the undercrossing walls and the center barrier. By introducing tracks, the flattening of the curves would become impossible and the shoulder virtually eliminated. We propose that a one track arrangement be considered.

31. Mary Cerutti, San Jose Avenue Organization to Save Our Environment (J.O.S.E.)

With reference to the I-280 S-curve underpass, the Department of Public Works in their letter of January 19, 1979 state that they do not feel the underpass width (64 feet) and alignment is adequate to provide for two lanes of traffic and double track operation. We feel that your proposal (page 86) that a left turn is required in order to continue south on San Jose Avenue would introduce an additional safety hazard. Further, observation of a 25-mile limit would have little success.

32. Marian Aird, J.O.S.E., C.O.M.O.

There have been repeated traffic accidents in the curve under I-280. This is less than an ideal location to run LRV's.

RESPONSE

A double track design has been proposed because while a single track operation would allow for a gain of one to two miles per hour for the motorists, it would create operational impacts on the LRV's. MUNI currently utilizes dynamic scheduling for their LRV operation so that the J-Line cars can not be scheduled to avoid arrival at a single-track segment at the same time. Consequently delays of a minute would randomly occur when the LRV cars arrive at the end of the single-track section simultaneously. With 6-minute headways, an estimated one third of all trains would suffer a delay.

An interlocking signal would be required so that only one LRV train at a time could occupy the single-track section. This would be the only single-track operation in the entire MUNI system, and so represents a potential safety hazard, if the MUNI operator ignored the red stop-and-wait signal, or if signals malfunctioned.

A study of accident data (1966-1977) in the "S" curve area seems to indicate that motorists enter the curve at excessive speeds because they believe that they are still on a freeway because it appears to be a freeway. As discussed on page 86 and 87, the proposed mitigation measures, including the left-hand ramp exit, would actually improve the motor vehicle safety in the S-curve over the existing condition since they would all help make the motorist more aware that he is no longer on a freeway but rather on a city street.

A single track section, however, would require fences on both sides of the track in order to avoid head-on collisions; thus, would reduce the effective paved maneuvering room for automobiles by seven feet, compared to the double track section, which would have the median barrier between the tracks and would thus allow for a paved track area for extra maneuvering room.

COMMENT

33. San Francisco Department of Public Works

We do not believe that the San Jose Avenue Subalternative J-Line Right-of-Way in Outside Lanes, Dolores to Monterey is feasible. This proposal shows LRV's crossing southbound San Jose Avenue traffic lanes twice which would pose serious traffic safety and control problems. In addition, one lane of traffic would be lost when LRV loading/unloading occurs. Much parking in residential areas would be lost.

COMMENT

34. Safety problems will be encountered on Genessee Street and Judson Avenue since these are narrow residential streets. Garage access would be hard. Much parking would be lost.

COMMENT

35. Phelan Avenue generates much traffic activity since the large parking lot for City College of San Francisco and other lots all use Phelan Avenue for access.

COMMENT

36. The report shows a deterioration of service level at the Phelan, Ocean and Geneva intersection from D to E. This a major intersection for access to City College of San Francisco. The intersection also is used by several MUNI lines including the "K" LRV service. All would be affected. We oppose this scheme.

RESPONSE

These concerns are contributing factors to the selection of the San Jose alignment as the preferred alternative. The San Jose Avenue alignment would avoid much of the loss of parking because the streets are more suitable and the alignment utilizes the median of the roads. The Bernal Cut was originally designed as a railroad corridor.

COMMENT

37. U.S. Department of Health and Human Services

According to the EIS, the option of "bulb the curb and sidewalk out to meet the LRV (light rail vehicle) tracks" would be the safest. Until more facts are known about the safety of the different boarding areas, we encourage the use of this option and other design features (rail fencing to prevent pushing, nonslip surfaces, etc.) to maximize

public safety. Has the feasibility of constructing long pullout spaces for the LRV's to prevent mid-street car stops been considered?

RESPONSE

The transit boarding platforms would feature a barrier or fencing on the traffic side, distinctive non-slip paved surfaces, minimum effective platform width would be 7 feet, platform lighting and shelters. In all alignments most of the streets would have four lanes of traffic (two each way) and the LRV would be in the center lanes so as to minimize interference from passing vehicles and vehicles accessing driveways. For safety reasons the LRV needs to stay in its lane and not swing across lanes.

COMMENT

38. U.S. Department of Health and Human Services

Information should be provided about the "number of pedestrian accidents" (page 83) that have occurred at the types of boarding areas (i.e., platforms, islands, curb and sidewalk, etc.) discussed in the EIS for San Francisco and other locations having similar transit facilities. We believe this information would be very helpful in making a decision on the design of safe loading and unloading areas for transit users.

COMMENT

39. U.S. Federal Highway Administration (FHWA)

Disclosure of recorded accidents between LRV pedestrians and automobiles would aid in substantiating the project benefits for the LRV pedestrian as stated in the summary section. Also, the definition of "pedestrian" needs to be made distinct between embarking/debarking passenger and the regular pedestrian.

RESPONSE

The San Francisco Department of Public Works is preparing a "Pedestrian Safety Study for San Francisco Downtown". The analysis of five years of pedestrian accidents in the downtown pedestrian zone includes Market Street with the streetcar and bus loading islands. Preliminary findings of the report, as yet (1/29/83) unpublished show that the highest concentration of pedestrian accidents are along the major transit streets of Market and Mission Streets. In the majority of cases the apparent (though not necessarily the legal fault) lies with the pedestrian who steps into the path of an

automobile. After walking against a red light (18.9%) and jaywalking (16.8%), the third highest area of pedestrian accidents are island related (15.9%). Of the 38 island-related accidents studied, 29% occurred when a person stepped off the island (either to get around somebody or bumped off) and were hit by an auto or bus, 18% were from persons jaywalking over the island; 13% persons walking to the island, and 10% from vehicles running over the island. The city plan is to put a wall/fence along the outside of the island, which should reduce the island related pedestrian accidents discussed above.

A second study by the Department of Public Works of pedestrian accidents along the streetcar routes of Judah and Taraval Streets is inconclusive, because department records do not adequately distinguish between which are streetcar/LRV related pedestrians and non-transit pedestrian accidents. The pedestrian safety experience of the above study and the loading island design currently being developed by the city would be utilized as appropriate for the stops of the J-Line connection.

COMMENT

40. As stated on pages 17 and 18, duplication of service along Mission Street and Monterey Boulevard could result in reduced services on other segments and less expansion of other route possibilities. This is an adverse impact that needs to be discussed with possible mitigation actions.

RESPONSE

Duplication of transit service along a particular street impacts the efficiency of the transit system as a whole. A discussion on pages 95-6 relates to the patronage impacts of improved headways on a street segment. The Monterey Alignment would duplicate other transit routes (10, 72, 36, 37 and K) over short segments. The Mission Street Alignment would duplicate the 14 Mission bus for 1½ miles and the 12 Ocean bus of 2 miles. The easiest measure of efficiency from the point of view of the system as a whole is the relationship of operating costs (tables 6, 7, & 8; pages 68-72) and revenue passengers (Pages 99, 104 and 106). For comparison the total annual operating budget for MUNI was \$152 million in FY 1982, and MUNI carried an estimated 500,000 to 600,000 passengers on an average weekday.

COMMENT

41. Any encroachment by the LRV on I-280 right-of-way will require FHWA-Washington D.C. office approval.

RESPONSE

The right-of-way for the San Jose Avenue undercrossing of the I-280 Freeway is owned by the State of California. Encroachment permits would be needed from Caltrans with FHWA approval.

COMMENT

42. Caltrans District 4

The impact on the I-280 freeway ramps resulting from LRV operations needs to be more adequately addressed. At intersections where a freeway off-ramp is located (Monterey Boulevard Alignment), introduction of LRV traffic could decrease the vehicular traffic capacity of the intersection resulting in longer queuing on the off-ramp and a possible backup onto the freeway.

RESPONSE

The traffic signal of the intersection of the Monterey Boulevard I-280 off-ramp with Circular Avenue was changed from a demand-activated to a fixed-time signal in order to assure that a queue does not back down the ramp onto the freeway. Preliminary analysis shows that the LRV movements could pre-empt the Circular Avenue phase and thus not impact the off-ramp green phase at all. The impact on Circular Avenue is discussed on page 90.

COMMENT

43. DEIR States on page 140 that "Derailed LRV at I-280 off-ramp (Monterey Boulevard Alignment) could create backup onto freeway, with potential for high-speed accidents." There needs to be some traffic handling contingency plan to prevent any traffic backup onto the freeway.

RESPONSE

This contingency would require immediate action by the Highway Patrol to route traffic around the ramp.

Air Quality

COMMENT

44. Norman Rolfe, San Francisco Tomorrow

The Report states that regional air quality will not be significantly improved. Well, it's quite possible since this is such a small project in comparison to the whole region. But, the question is: "What about the immediate area? What about the micro climate along the route?"

It would seem that improvement would be noticeable there. Although, it is also possible that the presence of a freeway along a large portion of that route might negate that benefit, that is, overpower whatever small reduction in air pollution and noise occurs because of LRV's replacing diesel buses.

RESPONSE

The elimination of diesel bus traffic would cause some reduction in pollutant emissions along the affected routes. At the same time increases in traffic congestion due to LRV traffic at certain intersections (see page 11 of the DEIS) would cause some increases in pollutant emissions. The results of the air quality modeling indicate that both of these effects would be sufficiently small so that their effects on local ambient air quality would be unmeasurable at critical locations.

COMMENT

45. U.S. Department of Health and Human Services

It is stated that the introduction of LRV traffic would tend to slow automotive traffic. Is this increased traffic congestion and the resulting impacts consistent with the air quality goals and transportation objectives for San Francisco? The results presented on page 110 of the EIS reveal that there would be no violations of the National Ambient Air Quality Standard (NAAQS) for carbon monoxide. While the eight hour standard would be equaled but not exceeded at certain locations, the resultant increased traffic congestion at the locations addressed on page 110 "would be within the expected range of error of the model and would not be measurable." Does this conclusion hold true for the other applicable NAAQS?

RESPONSE

The results on page 110 apply to the federal eight hour average carbon monoxide air quality standard which is the most likely air quality standard to be violated due to

localized traffic congestion. Based on existing studies, it is not expected that other air quality standards would be violated as a result of the proposed project.^{1,2} However, since the publication of the Draft EIS the State of California has reduced the state one hour average CO standard from 35 to 20 parts per million. Table 12 indicates that this standard would be violated in 1980 at San Jose Avenue/Randall Street under both the San Jose Avenue and Monterey Boulevard alignments and at Ocean/Phelan/Geneva under the Monterey Boulevard alignment both with or without the proposed project.

Increased traffic congestion for its own sake is not a transportation objective; however, if increased traffic congestion is a result of improved transit service then it is consistent with established policy. It is explicit City policy to move people not vehicles and as an indirect consequence improve air quality.

Noise and Vibration

COMMENT

46. Marian Aird

On the sound readings, not one single sound reading was done on Monterey Boulevard. I consider that definitely not a comprehensive report and certainly not a thorough study of conditions.

47. Mrs. Lucich

However, the main and important factor, I think, in turning down the idea of the MUNI coming into our area is that the liveability of the people will be decreased, and has been decreased gradually over the years. We now have those two buses, the 43 and 36, and they generate a great deal of noise. Bringing MUNI on such a street and generating more noise would just decrease the liveability of the entire area.

¹Federal Highway Administration, offices of Research and Development, Transportation Issues Related to a Short Term Nitrogen Dioxide Air Quality Standard, Washington D.C. 20590, July 1979.

²Federal Highway Administration, Highway Air Quality Impact Appraisals, Vol. I, Introduction to Air Quality Analysis, Washington, D.C., June 1978.

RESPONSE

The following text and table will be inserted on page 115 of the DEIS:

Noise measurements were made on 17 January 1983 on both Monterey Boulevard and Genessee Street. The results of the noise measurements are shown on Table D. Noise measurements were made between the hours 5:00 and 6:00 in the morning and also between 2:30 and 3:30 in the afternoon. The early morning hour was chosen because calculations indicate that that largest increase in hourly noise levels would occur during this hour if the J-Line Connection project were implemented. The mid-afternoon measurements were taken to assess noise level changes during daytime hours. The data indicates that noise levels are quieter along Genessee Street than anywhere else in the study area. During the morning, sound levels are quite low and in fact, the Leq would have been about 45 dBA had not a garbage truck passed during the measurement. Conversations with the MUNI scheduling department indicate that one bus passes on Genessee Street between the hour of 5:00 and 6:00 in the morning, although it did not pass during our measurement. During the afternoon, more traffic, including two diesel-powered buses, passed during the measurement session. The diesel buses (lines 43 and 36) emitted levels of 78-82 dBA, typical of levels measured throughout the study area for diesel bus passbys. Noise levels on Monterey Boulevard are significantly higher than along Genessee Street. From 5:00 to 6:00 in the morning, for example, the Leq is approximately 59 dBA. In the afternoon, the noise level increases to about 66 dBA.

If the Monterey Boulevard alignment were chosen, we calculate that hourly noise levels would not increase along Monterey Boulevard and maximum noise levels generated by the LRV passbys would not be louder than existing maximum noise events. Along Genessee Street or any of the other streets between Monterey Boulevard and Judson Avenue, noise levels would increase significantly during the early morning and late night hours. An increase in the hourly Leq of up to 10 dBA could be expected from 5:00 to 6:00 p.m. This would be expected to generate widespread community response in the neighborhoods and would be considered a significant noise impact. Noise levels would not be increased significantly during daylight hours. Vibration levels, as discussed on page 119, would be barely perceptible along this alignment and would be expected to cause no adverse community impact.

Table D : Noise Measurement Data

Site No.	Location	Day and Time of Measurement	L ₁ *	L ₁₀	L ₅₀	L ₉₀	L ₉₉	L _{eq} **	Comments
11	Corner of Genessee and Flood, 15 ft. from curb of each	Monday 1/17/83 5:10 - 5:25 am	62	47	40	36	35	50	Garbage truck: 71 dBA; light traffic, buses on Foerster St. to 58 dBA
11	" "	Monday 1/17/83 2:40 - 2:55 pm	77	66	56	50	45	65	Trucks, cars, buses on Genessee St. to 82 dBA
12	Monterey Blvd. near Foerster, 30 ft. from the centerline of the near lane--typical of building setbacks on Monterey Blvd.	Monday 1/17/83 5:35 - 5:50 am	72	60	51	46	42	59	Traffic on Monterey; buses across Monterey to 74 dBA
12	" "	Monday 1/17/83 3:05 - 3:20 pm	75	70	64	60	60	66	Traffic on Monterey; buses to 75 dBA

*The sound level in dBA that was equaled or exceeded one percent of the time; L₁₀, L₅₀, L₉₀ and L₉₉ are the levels equaled or exceeded 10, 50, 90 and 99 percent of the time, respectively.

**The L_{eq} is the equivalent steady-state sound level that, in a stated period of time, would contain the same acoustic energy as the time-varying sound level during the same time period.

COMMENT

48. Norman Rolfe, San Francisco Tomorrow

We could expect an improvement, that is, a lowering of the noise levels along San Jose due to the fact that the LRV's will be replacing the diesel buses. This is brought out in the Report, by the way, that they do expect some slight reduction in the noise level and it would appear the Report has understated that.

RESPONSE

The reduction in noise levels expected as a result of the elimination of the 26 bus on San Jose was not understated. There would, in fact, be a small and barely noticeable reduction in the noise level along San Jose Avenue as a result of replacing diesel buses with the LRV's. It should be noted that this is the only alignment that would result in an overall lowering of noise levels.

COMMENT

49. U.S. Department of Health and Human Services

According to the EIR, it is expected that residents may complain about vibration during train passbys. In order to alleviate these possible complaints, a detailed engineering analysis will be completed for information on the significance of the problem. Where problems are determined "serious" and possibly adverse to either the structure or the occupant, we trust that measures will be implemented to reduce the vibration levels below background levels.

RESPONSE

If vibration problems are determined "serious", then measures will in fact be implemented to reduce the vibration levels below background levels. MUNI will utilize the guidelines prepared by the Committee on Hearing, Bioacoustics and Biomechanics (CHABA), Assembly of Behavioral and Social Sciences, National Research Council, to ensure that adequate vibration criteria are met (see Tables E and F). The "Guidelines for Design of Rapid Transit Facilities," developed by the American Public Transit Association, 1981, will also be considered in further design stages of the project.

Vegetation

COMMENT

50. Bruce Bonacker, Glen Park Association

The report states that the San Jose Avenue Outside-Lane Subalternative could affect one or more of the 13 mature Canary Island Dale Palms located on Dolores

TABLE E

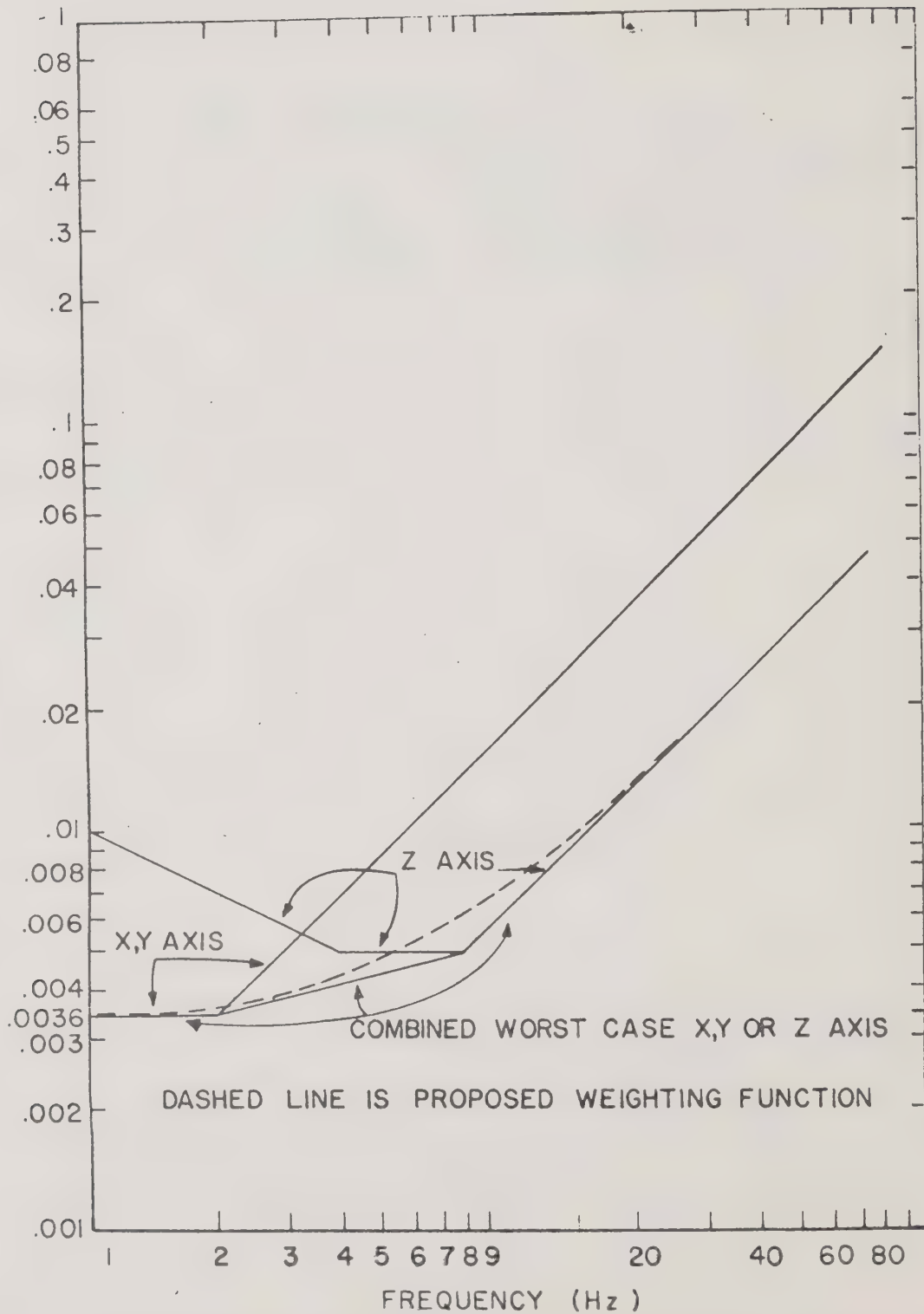
CRITERIA FOR ANNOYANCE DUE TO GROUND BORNE VIBRATION (CHABA)

<u>Building Use Category</u>	<u>Maximum Weighted Vibration Level (dB re 1-6g)</u>	<u>Maximum Peak Vibration Velocity (in/sec)</u>	<u>Comments</u>
Hospital & Critical Areas	51	0.005	Criterion also applies to TV & Recording Studios
Residential (Nighttime)	54	0.007	Criterion for transit system operation
Residential (Daytime)	57	0.010	Criterion applies to churches, schools, hotels & theaters and to transit system construction
Office	63	0.020	Criterion applies to commercial establishments
Factory	69	0.040	Criterion applies to industrial establishments

REF: "Guidelines for Preparing Environmental Impact Statements on the Impact of Noise," National Research Council Committee on Hearing, Bioacoustics and Biomechanics, Working Group 69, 1977.

NOTE: The weighting criteria are based on the curves shown in Table F.

TABLE F



Building vibration criteria for occupants in buildings. All curves are for hospital and critical working areas. See Table C-2 for proper scale factors.

Street. If this means removal or destruction, it should be so stated. "Affect" is too general. Also, it should be verified whether this contradicts the Open Space Element of the General Plan.

RESPONSE

On page 120 of the DEIS it is stated that, "the proposed LRV route for the Dolores Street subalternative to the San Jose Avenue alignment would not affect any palm trees lining Dolores Street, since only the southbound track would use Dolores Street, and an LRV turning on the Dolores/30th Street intersection would not come into contact with any portion of the palm-lined median strip." The summary will be made consistent with this information. In any case, MUNI has removed Dolores Street from the San Jose alignment because the engineering analysis showed that there is insufficient room in the intersection to accommodate the two car trains (which may occasionally serve the route) making left turns onto Dolores. A judgement as to whether the Dolores Street subalternative would be consistent with the Open Space element need not be made by the City Planning Commission as this alternative has been dropped from consideration.

Hydrology

COMMENT

51. U.S. Environmental Protection Agency

The hydrology alternatives section of the FEIS should discuss the project's post-construction restoration phase, particularly in terms of erosion and sedimentation to receiving waters.

RESPONSE

The "post-construction restoration phase" is generally considered the last part of the construction phase. Construction is not really "complete" until the rail alignment and transformer station site have been restored through paving or ballasting. Each alternative alignment would be restored to its existing surface status with rails set in pavement or in ballast with a curb surround to prevent runoff. A curb would be installed at the transformer station to prevent storm water from leaving the site through overhead flow. The transformer station site and the rail alignments would be graded to provide positive drainage through properly installed storm drain facilities to the City storm/sewer system. No additional erosion or sedimentation to receiving

waters would occur after construction was completed, since surface runoff would continue to be carried to the City storm/sewer system over materials similar to those currently along each alternative route.¹

Historical Properties and Parkland

COMMENT

52. Bruce Bonnecker, Glen Park Association

The report stated that, "none of the alignments would affect any designated landmark or known archaeological site." We must assume this means "demolish or remove." Otherwise the statement is too general.

RESPONSE

The text on page vii of the summary should be changed to read, "The alternative alignments would neither physically take any land or building from a historic resource or known archaeological site nor preclude the appropriate use of such resources."

COMMENT

53. The report does not consider buildings of architectural merit, only landmarks. The report should go further here.

RESPONSE

Section V, Historic Properties and Parkland, of the EIS contains Table 19 which lists the structures considered to be architecturally significant by the Department of City Planning in its survey conducted in 1976. As stated in the EIS, only two structures along the alternative alignments are considered to have architectural value: the Balboa Park Police Station and then Sunnyside Conservatory. The architectural value of these buildings would not be affected by the implementation of the project.

¹William Lathrop, Project Engineer, PBQ&D, Inc., telephone communication, January 18, 1983.

IV. ERRATA

A number of the text changes given in the next section are to correct errata rather than to respond to specific comments. The pages where this occurs are listed below. The reader should review these pages in the next section for the specific changes.

1. pages vi and vii: The summary energy information is changed to be consistent with Table 16 in the DEIS/EIR.
2. page 10: The costs for vehicles are added to Table 1.
3. page 17: The energy information is changed to be consistent with Table 16 in the DEIS/EIR.
4. pages 69 and 71: The analysis of 12 minute headways on these pages did not involve the appropriate alternatives.
5. pages 70 and 72: Labels and footnotes in the tables are changed to indicate that costs rather than savings are involved.
6. page 76: The figures for alignment 1a were in error.

V. LIST OF PREPARERS

Author of Environment Impact Statement

Urban Mass Transportation Administration
Washington, DC 20590
(202) 426-2360

Charles H. Graves
Director, Office of Planning Assistance

Abbe Marner
Office of Planning Assistance

Sue C. Kaminsky
Environmental Consultant

Author of Environmental Impact Report

San Francisco Department of City Planning
450 McAllister Street
San Francisco, CA 94102
(415) 558-5261

Alec Bash
Environmental Review Officer

Barbara Sahm
Assistant Environmental Review Officer

Gail Bloom
Reviewer

Author of Preliminary Draft EIS/EIR

Environmental Impact Planning Corporation
319 Eleventh Street
San Francisco, CA 94103
(415) 864-2311

Douglas H. Svensson
Project Manager

With: Charles M. Salter, Consultants in Acoustics
E.M. Ross and Associates

Project Sponsor

Utilities Engineering Bureau
San Francisco Public Utilities Commission
693 Vermont Street
San Francisco, CA 94107
(415) 558-4677

Gerald P. Cauthen
Principal Engineer

Robert Stein
Project Manager

Lynn Pio
Transit Environmental Coordinator

Project Engineers

Parsons Brinckerhoff Quade & Douglas, Inc.
1025 Van Ness Avenue
San Francisco, CA 94109
(415) 474-4500

William H. Lathrop
Principal-in-Charge

George Stanske
Project Manager

Ross Maxwell
Transportation Engineer

VI. LIST OF RECIPIENTS OF EIS

FEDERAL AND STATE AGENCIES

State Office of Intergovernmental
Management (IO)
1400 - Tenth Street
Sacramento, California 95814

Air Quality Resources Board
Regional Programs Division
1102 Q Street
Sacramento, CA 95814

Department of Transportation
Office of the Secretary
Regional Representative of
the Secretary
Federal Highway Administration
Department of Health and Human
Services
Department of Housing and Urban
Development
Department of the Interior
Environmental Protection Agency

Air Resources Board
Department of Transportation (Caltrans)
Office of Historic Preservation
Office of Planning and Research
State Clearinghouse

REGIONAL AGENCIES

Association of Bay Area Governments
ABAG Clearinghouse
Bay Area Air Quality Management
District
Metropolitan Transportation
Commission (MTC)
MTC Clearinghouse
California Archaeological Site
Inventory - Sonoma State

Association of Bay Area
Governments
Hotel Claremont
Berkeley, California 94705

Bay Area Air Quality
Management District
939 Ellis Street
San Francisco, California 94109
Attn: Irwin Mussen

Bay Area Rapid Transit
District
939 Ellis Street
Oakland, California 94705

California Archaeological Site Inventory
Department of Anthropology
Sonoma State University
Rohnert Park, CA 94928

Golden Gate Bridge Highway &
Transportation District
P.O. Box 9000, Presidio Station
San Francisco, California

Alameda-Contra Costa Transit District
508 - 16th Street
Oakland, CA 94612

Metropolitan Transportation Commission
Hotel Claremont
Berkeley, California 94705

Caltrans
130 Oak Street
San Francisco, CA 94102

San Mateo County Transit District
400 South El Camino
San Mateo, California 94402

CITY AND COUNTY OF SAN FRANCISCO

San Francisco City Planning Commission
450 McAllister, 5th Floor
San Francisco, California 94102
Lee Woods, Commission Secretary
Toby Rosenblatt, President
Susan Bierman
Roger Boas
Norman Karasick, Alternate
Jerome Klein
Yoshio Nakashima
Richard Sklar
Eugene Kelleher, Alternate
C. Mackey Salazar

Landmarks Preservation Advisory Board
450 McAllister Street
San Francisco, CA 94102
Attn: Jonathan Malone, Secretary

Bureau of Building Inspection
450 McAllister Street
San Francisco, California 94102
Attn: Robert Levy, Superintendent

Water Department
Distribution Division
425 Mason Street
San Francisco, CA 94102
Attn: George Nakagaki, Manager

San Francisco Municipal Railway
Muni Planning Division
949 Presidio Avenue, Room 204
San Francisco, CA 94115
Attn: Peter Straus

San Francisco Committee for
Utility Liaison on Construction
and Other Projects (CULCOP)
c/o GES - Utility Liaison
City Hall, Room 363
San Francisco, CA 94102
Attn: Herman Beneke

San Francisco Department of
Public Works
Traffic Engineering Division
460 McAllister Street
San Francisco, CA 94102
Attn: Scott Shoaf

San Francisco Fire Department
260 Golden Gate Avenue
San Francisco, California 94102
Attn: Joseph Sullivan, Chief
Division of Planning
and Research

San Francisco Public Utilities
Commission
Bureau of Energy Conservation
949 Presidio Avenue, Room 111
San Francisco, CA 94115
Attn: Robin Calhoun, Director

San Francisco Public Utilities
Commission
City Hall, Room 287
San Francisco, CA 94102
Attn: Richard Sklar

San Francisco Office of Public Works
City Hall, Rm. 260
San Francisco, CA 94102
Attn: Jeffrey Lee

San Francisco Real Estate Dept.
450 McAllister Street, Room 600
San Francisco, CA 94102
Attn: Wallace Wortman
Director of Property

Mayor's Economic Development Council
480 McAllister Street
San Francisco, CA 94102
Attn: Mr. Richard Goblirsch

Bureau of Engineering
45 Hyde Street, #222
San Francisco, CA 94102
Attn: Ray Danehy

MEDIA

San Francisco Bay Guardian
2700 - Nineteenth Street
San Francisco, CA 94110
Attn: Patrick Douglas, City Editor

San Francisco Chronicle
925 Mission Street
San Francisco, California 94103
Attn: Marshall Kilduff

MEDIA (cont'd)

San Francisco Examiner
110 - Fifth Street
San Francisco, CA 94103
Attn: Gerald Adams

San Francisco Progress
851 Howard Street
San Francisco, CA 94103
Attn: Mike Mewhinney

The Sun Reporter
1366 Turk Street
San Francisco, CA 94115

LIBRARIES

Documents Department
City Library - Civic Center
San Francisco, CA 94102
Attn: Faith Van Liere

Environmental Protection
Agency Library
215 Fremont Street
San Francisco, CA 94105
Attn: Jean Circiello

Government Documents Section
Stanford University
Stanford, CA 94305

Government Publications Department
San Francisco State University
1630 Holloway Avenue
San Francisco, CA 94132

Hastings College of the Law - Library
198 McAllister Street
San Francisco, CA 94102

Institute of Governmental Studies
1209 Moses Hall
University of California
Berkeley, CA 94720

Golden Gate University
Library
536 Mission St.
San Francisco, CA 94105

Excelsior Branch Library
4400 Mission Street
San Francisco, CA 94112

Glen Park Branch Library
653 Chenery Street
San Francisco, CA 94131

Ingleside Branch Library
387 Ashton Avenue
San Francisco, CA 94112

Mission Branch Library
3359 - 24th Street
San Francisco, CA 94110

Noe Valley Branch Library
451 Jersey Street
San Francisco, CA 94114

Bernal Branch Library
500 Cortland Avenue
San Francisco, CA 94110

GROUPS & INDIVIDUALS

AIA
Northern California Chapter
790 Market Street
San Francisco, CA 94102

Bay Area Council
348 World Trade Center
San Francisco, CA 94111

David Caprone
Lincoln Property Company
220 Sansome Street
San Francisco, CA 94104

Consumer Action
1417 Irving
San Francisco, CA 94122
Attn: Kay Pachtner

Joseph Coriz
2853 - 22nd Street
San Francisco, CA 94110

Downtown Association
582 Market Street
San Francisco, CA 94104
Attn: Lloyd Pflueger

GROUPS & INDIVIDUALS (con'd)

Downtown Senior Social Services
295 Eddy Street
San Francisco, CA 94102

Environmental Science Associates
1291 E. Hillsdale Boulevard
Foster City, CA 94404

Friends of the Earth
1045 Sansome Street
San Francisco, CA 94111
Attn: Connie Parrish

The Foundation for San Francisco's
Architectural Heritage
2007 Franklin Street
San Francisco, CA 94109
Attn: Grant Dehart

Gray Panthers
50 Fell Street
San Francisco, CA 94102
Attn: W. Nunnally

Gruen, Gruen + Associates
564 Howard Street
San Francisco, CA 94105

Heller, Ehrman, White & McAuliffe
44 Montgomery Street, 32nd Floor
San Francisco, CA 94104
Attn: Robert L. Gibney, Jr.

Sue Hestor
4536 - 20th Street
San Francisco, CA 94114

Carl Imparato
1205 Garfield
Albany, CA 94705

Chris Lavdiotis
1919 - 28th Ave.
San Francisco, CA 94116

League of Women Voters
12 Geary Street, Room 605
San Francisco, CA 94108

Legal Assistance to the Elderly
944 Market Street, #803
San Francisco, CA 94102

Gerald Owyang
1517 Reed Ave., #2
San Diego, CA 92109

San Francisco Tomorrow
88 First Street - Room 600
San Francisco, CA 94111
Attn: Suzanne Smith

San Franciscans for Reasonable Growth
88 First Street
San Francisco, CA 94105
Attn: Carl Imparato

John Sanger & Associates
2340 Market Street
San Francisco, CA 94114

Senior Escort Program
South of Market Branch
814 Mission Street
San Francisco, CA 94103

Sierra Club
530 Bush Street
San Francisco, CA 94108
Attn: Becky Evans

Kent E. Soule
Chickering and Gregory
3 Embarcadero Center, 23rd Floor
San Francisco, CA 94111

Tenants & Owners Development Corp.
177 Jessie Street
San Francisco, CA 94105
Attn: John Elberling

Paul Thayer
1033 Stanyan
San Francisco, CA 94117

Timothy Tosta
333 Market Street, Suite 2230
San Francisco, CA 94105

Steven Weicker
899 Pine Street, #1610
San Francisco, CA 94108

Women's Chamber of Commerce
681 Market Street, Room 992
San Francisco, CA 94105

GROUPS & INDIVIDUALS (con'd)

San Francisco Forward
640 Market Street
San Francisco, CA 94104
Attn: Frank Noto

Mrs. G. Bland Platt
339 Walnut Street
San Francisco, CA 94118

Charles Hall Page and Associates
364 Bush Street
San Francisco, CA 94104

San Francisco Beautiful
41 Sutter Street
San Francisco, CA 94104
Attn: Mrs. H. Klussman, President

San Francisco Building & Construction
Trades Council
400 Alabama Street, Room 100
San Francisco, CA 94110
Attn: Stanley Smith

San Francisco Chamber of Commerce
456 California Street
San Francisco, CA 94104
Attn: Richard Morten

San Francisco Ecology Center
13 Columbus Avenue
San Francisco, CA 94111

San Francisco Junior
Chamber of Commerce
251 Kearny Street
San Francisco, CA 94108

San Francisco Labor Council
3068 - 16th Street
San Francisco, CA 94103
Attn: Bernard Speckman

San Francisco Planning and Urban
Research Association
312 Sutter Street
San Francisco, CA 94108

San Francisco Convention and
Visitors Bureau
1390 Market Street, Suite 260
San Francisco, CA 94102
Attn: R. Sullivan, Manager

Jeff Vance
Campeau Corp. of California
681 Market Street
San Francisco, CA 94105

Pillsbury, Madison & Sutro
P. O. Box 7880
San Francisco, CA 94120
Attn: Abby Staebler

Planning Analysis & Development
530 Chestnut Street
San Francisco, CA 94133
Attn: Gloria Root

David P. Rhoades
44 Montgomery Street - Suite 547
San Francisco, CA 94104

Marie Zeller
Whisler-Patri
590 Folsom Street
San Francisco, CA 94105

Environmental Planning & Research, Inc.
649 Front Street
San Francisco, CA 94111
Attn: Leslie de Boer

Charles T. Gill
315 Ivy Street
San Francisco, CA 94102

Calvin Dare
Cushman Wakefield
555 California - Suite 2700
San Francisco, CA 94104

Bendix Environmental Research, Inc.
1390 Market Street - Suite 902
San Francisco, CA 94102

Environmental Simulation Laboratory
316 University Hall
University of California
Berkeley, CA 94720
Attn: Peter Bosselman

Brobeck, Phleger, Harrison
One Market Plaza
San Francisco, CA 94105
Attn: Michael J. Rushman, Esq.

GROUPS & INDIVIDUALS (con'd)

Lincoln Property Company
222 Sansome Street
San Francisco, CA 94104
Attn: David Capron

Chickering & Gregory
3 Embarcadero Center
23rd Floor
San Francisco, CA 94111
Attn: Kent Soule

Business and Professional
Association of Noe Valley
3823-24th Street
San Francisco, CA 94114
Attn: Armando, Bolanos, President

Coalition for San Francisco
Neighborhood
1154 Clement Street
San Francisco, CA 94118
Attn: Jonathan D. Bulkley, President

East and West of Castro Street
Improvement Club
327 Jersey Street
San Francisco, CA 94114

Eureka Valley Merchants
Association
575 Castro Street
San Francisco, CA 94114
Attn: Steven Stegman, President

Eureka Valley Promotion
Association
P. O. Box 14137
San Francisco, CA 94114
Attn: Phil McPhearson, President

Friends of Noe Valley
4095 Army Street
San Francisco, CA 94131
Attn: Mirian Blaustein, President

Glen Park Association
17th Van Buren Street
San Francisco, CA 94131
Attn: Bruce Bonacher

Grand View Neighbors
204 Grand View Avenue
San Francisco, CA 94114
Attn: Elza Strait, Secretary

Noe Valley Merchants Association, Inc.
3952-24th Street
San Francisco, CA 94114

Public Health Center
3840-17th Street
San Francisco, CA 94114
Attn: Ms. Corey, Dist. Health Officer

Twin Peaks Council, Inc.
120 Graystone Terrace
San Francisco, CA 94114
Attn: Albert Meakin, President

Twin Peaks Improvement Association
171 Graystone Terrace
San Francisco, CA 94114
Attn: Gary Faldsey, President

Upper Noe Valley Neighborhood Council
282-29th Street
San Francisco, CA 94131
Attn: A. J. Torrano, President

Victorian Alliance
4143-23rd Street
San Francisco, CA 94114
Attn: Earl Moss, Director

Bernal Heights Association
397 Park Street
San Francisco, CA 94120

Coalition of Outer Mission Organizations
534 Madrid Street
San Francisco, CA 94112

Community Design Center
2101 Bryant Street
San Francisco, CA 94110
Attn: Chuck Turner, Director

Cortland Merchants Association
424 Cortland Avenue
San Francisco, CA 94110
Attn: Ms. Nancy White, President

GROUPS & INDIVIDUALS (con'd)

St. Mary's Park Improvement Club
314 College Avenue
San Francisco, CA 94112
Attn: L. Loughlin, President

Cayuga Improvement Association
2349 Alemany Boulevard
San Francisco, CA 94112
Attn: Mr. Ronald Mota, President

COMO
P. O. Box 12358
San Francisco, CA 94112
Attn: Steve Rabisa, President

Excelsior Business Association, Ltd.
4519 Mission Street
San Francisco, CA 94122

Excelsior District Improvement Assoc.
400 Persia Avenue
San Francisco, CA 94112
Attn: Fred Imsand, President

Geneva-Mission Businessmen's Assoc.
5172 Mission Street
San Francisco, CA 94112
Attn: Ms. Josephine Chevalier, Pres.

New Mission Terrace Improvement Assoc.
830 Darien Way
San Francisco, CA 94127
Attn: Anthony Sacco, President

Portola District Merchant Assoc.
2497 San Bruno Avenue
San Francisco, CA 94134
Attn: Richard Parodi, Pres., D.D.S.

Portola Heights Voters League
1223 Silver Avenue
San Francisco, CA 94134
Attn: Ramona Spicer, President

Portola & McLaren Park Assoc.
1830 Burrows Street
San Francisco, CA 94134
Attn: Neil Wallace, President

Balboa Terrace Homes Association
651 Upland Drive
San Francisco, CA 94127
Attn: David Slifer, President

Comm. of Park Merced Res.
Comm. to Open Occupancy
101 Tapia Drive
San Francisco, CA 94132
Attn: Mr. Trafficante, Chair

Crestlake Property Owners Association
50 Crestlake Drive
San Francisco, CA 94132
Attn: Daniel Leehane, President

Housing Conservation Institute
315 Granada Avenue
San Francisco, CA 94112

Ingleside Community Association
33 DeMontefort Avenue
San Francisco, CA 94112
Attn: Mr. Miramontes, President

Ingleside Terrace Homes Assoc.
260 Urbano Drive
San Francisco, CA 94127
Attn: Mr. Siden, President

Lakeshore Acres Improvement Club
150 Clearfield Drive
San Francisco, CA 94132
Attn: Mr. Bon, President

Lakeside Village Merchants Association
2621 Ocean Avenue
San Francisco, CA 94132
Attn: David Barron, President

Miraloma Park Improvement Club
238 Bella Vista Avenue
San Francisco, CA 94127
Attn: Ms. Dorothy

Monterey Heights Homes Association
120 Fernwood Drive
San Francisco, CA 94127
Attn: Ms. Raven, President

Mt. Davidson Manor Homeowners Association
830 Darien Way
San Francisco, CA 94127
Attn: Mr. Raabe, President

GROUPS & INDIVIDUALS (con'd)

Ocean Avenue Merchants Association
1417 Ocean Avenue
San Francisco, CA 94112
Attn: Mr. Miles, President

Ocean View, Merced, Ingleside
Community Association
27 Williar Avenue
San Francisco, CA 94112

Park Merced Residents Organization
32 Bucareli
San Francisco, CA 94132
Attn: Leon Cowen, Chair

St. Francis Homes Association
101 Santa Clara Avenue
San Francisco, CA 94127
Attn: Charles Power, Exec. Sec.

South Western Neighborhood Improvement
Group
139 Broad Street
San Francisco, CA 94112
Attn: Rev. Lewis Allen

Stonestown Merchants Assoc., Inc.
20 Stonestown Mall
San Francisco, CA 94132
Attn: Mr. Steve Weiner, President

Sunnyside Neighborhood Association
350 Hearst Avenue
San Francisco, CA 94112
Attn: Ms. Diana Schroder

Westwood Forest Home Association
1 Robinwood Drive
San Francisco, CA 94127
Attn: Tom Hoshiyama, President

Westwood Highlands Association
487 Colon Avenue
San Francisco, CA 94127
Attn: Martin Ward, President

Westwood Park Association
939 Faxon Avenue
San Francisco, CA 94112
Attn: Dr. Bertolotti, President

Mr. Jim Gravanis
74 Mizpah Street
San Francisco, CA 94131

Mrs. L. Grogan
258 Thirtieth Street
San Francisco, CA 94110

Mr. Milton Hanoun
1884 San Jose Avenue
San Francisco, CA 94112

Ms. Rosita Harrison
1933 San Jose Avenue
San Francisco, CA 94112

Ms. Florence Haverty
1947 San Jose Avenue
San Francisco, CA 94112

Ms. Shirley Johnson
1735 B Liberty Street
San Francisco, CA 94110

Mr. John A. Knox, Jr.
3853 Army Street
San Francisco, CA 94131

P. M. La Grave
1735 B Dolores Street
San Francisco, CA 94110

Mr. James MacDougall
1201 Sanchez Street
San Francisco, CA 94114

Ms. Maude Main
266 Thirtieth Street
San Francisco, CA 94131

Mr. Bruce Martin
1878 San Jose Avenue
San Francisco, CA 94112

Mr. Drew McEwen
1792 Dolores Street
San Francisco, CA 94110

Ms. Connie Ortega
106 Delano
San Francisco, CA 94112

Ms. Sylvia Powell
1542-44 Church Street
San Francisco, CA 94131

GROUPS & INDIVIDUALS (con'd)

Mr. Norman Rolfe
2233 Larkin Street
San Francisco, CA 94109

Mr. Andrew Safont
1717 Dolores Street
San Francisco, CA 94110

Mr. and Mrs. Ramon Sanchez
1749 San Jose Avenue
San Francisco, CA 94112

M. Schroeder & E. Schroeder
1708 Dolores Street
San Francisco, CA 94114

Mrs. A. Shandonay
One Otsego Avenue
San Francisco, CA 94112

Mr. Carl A. Smith
1021 Sanchez Street
San Francisco, CA 94114

J. Taylor
24 Thirtieth Street
San Francisco, CA 94131

Mr. Colin M. Thurlow
49 Chenery Street
San Francisco, CA 94131

Mr. Mario Tovani
43 Capistrano Avenue
San Francisco, CA 94112

D. Venturi
200 Thirtieth Street
San Francisco, CA 94131

Ms. Norma Wardell
637 San Jose Avenue
San Francisco, CA 94110

Ms. Evelyn Watts
22 Paulding Street
San Francisco, CA 94112

Mr. Gary Wong
1755 Dolores Street
San Francisco, CA 94110

Ms. Rosa Wood
1832 San Jose Avenue
San Francisco, CA 94112

Mr. John Maraini
141 St. Marys Avenue
San Francisco, CA 94112

Mrs. L. Marcolini
16 Havelock Street
San Francisco, CA 94112

Mr. William McCarthy
1961 San Jose Avenue
San Francisco, CA 94112

Mr. and Mrs. Bernard Murphy
181 Capistrano Avenue
San Francisco, CA 94112

Ms. Angie Olson
82 Havelock Street
San Francisco, CA 94112

Mr. Mario Renzie
2061 San Jose Avenue
San Francisco, CA 94112

Mr. Julio Roca
1905 San Jose Avenue
San Francisco, CA 94112

Mr. and Mrs Gus Rowe
30 Paulding Street
San Francisco, CA 94112

Deborah Sabelli
1975 San Jose Avenue
San Francisco, CA 94112

Mr. John Simpson
252 Theresa Street
San Francisco, CA 94112

Mr. John T. Torpino
1919 San Jose Avenue
San Francisco, CA 94112

GROUPS & INDIVIDUALS (con'd)

Ms. Mary Williams
78 Havelock Street
San Francisco, CA 94112

Mr. Julius Zamacona
63 San Juan Avenue
San Francisco, CA 94112

Yves Barbero
1073 Dolores Street
San Francisco, CA 94110

Mr. Stanley M. Benson
4011-25th Street
San Francisco, CA 94114

Ms. Susan Bragstad
325-27th Street
San Francisco, CA 94131

Mr. Patrick Byrne
1770 Dolores Street
San Francisco, CA 94110

Mr. Robert Callwell
198-29th Street
San Francisco, CA 94110

Mr. A. Canepa
1888 San Jose Avenue
San Francisco, CA 94112

Mr. Henry Cavigli
430 Elizabeth Street
San Francisco, CA 94114

Ms. Mary Cerutti
1882 San Jose Avenue
San Francisco, CA 94112

Ms. Martha Chase
1939 San Jose Avenue
San Francisco, CA 94112

Mr. Jose Costello, Jr.
1790 Dolores Street
San Francisco, CA 94110

F. Cunningham
50 Paulding Street
San Francisco, CA 94112

Mr. David Curtis
1792 Dolores Street
San Francisco, CA 94110

Mr. Bart Deamer
1335 Douglass Street
San Francisco, CA 94131

Ms. Emilia Emerson
255 Capistrano Avenue
San Francisco, CA 94112

Tryve Ericksen
1745 San Jose Avenue
San Francisco, CA 94112

Mission Planning Council
212 Fair Oaks Street
San Francisco, CA 94110
Attn: Ms. Luisa E. Esquerro, President

San Francisco Bicycle Coalition
701 Ulloa Street
San Francisco, CA 94116
Attn: Mr. Darrell Skrabak

Citizens Action League
814 Mission Street
San Francisco, CA 94103
Attn: Ms. Denise Bergez

Glen Park Assoc. - Traffic Com.
815 Chenery Street
San Francisco, CA 94131
Attn: Ms. Laura Dogerez

Dolores Heights Improvement Club
3991 - 20th Street
San Francisco, CA 94114
Attn: Mrs. Nancy Kahn, Chairperson

J.O.S.E.
266 Cotter Street
San Francisco, CA 94112
Attn: Ms. Marian Aird, President

F. Nielsen
25 Milton Street
San Francisco, CA 94112

GROUPS & INDIVIDUALS (con'd)

Mr. Ken Salazar
1979 San Jose Avenue
San Francisco, CA 94112

Mr. Richard G. Mumford
1792 Dolores Street, #2
San Francisco, CA 94110

Ms. Claire Pilcher
471 Hoffman Avenue
San Francisco, CA 94114

Supervisor Don Horanzy
City Hall, Room 235
San Francisco, CA 94102

Supervisor Harry Britt
City Hall, Room 235
San Francisco, CA 94102

Supervisor Carol Ruth Silver
City Hall, Room 235
San Francisco, CA 94102

C. R. Arnold
59 La Grande Avenue
San Francisco, CA 94112

Mr. George M. Cohn
112 St. Marys Avenue
San Francisco, CA 94112

Guilford S. Frolich
231 Lee Avenue
San Francisco, CA 94112

Mr. & Mrs Ralph Grandy
1937 San Jose Avenue
San Francisco, CA 94112

Ms. Marie Magnoli
86 Havelock Street
San Francisco, CA 94112

Mr. William Simpson
252 Theresa Street
San Francisco, CA 94112

Mr. Vince Lueta
2586 - 33rd Avenue
San Francisco, CA 94116

Mr. Rene Morales
2518 - 35th Avenue
San Francisco, CA 94116

Supervisor Nancy Walker
City Hall, Room 235
San Francisco, CA 94102

Mr. James Koentopp
2987 Mission Street
San Francisco, CA 94110

Mr. Richard Schlaich
693 Douglass Street
San Francisco, CA 94114

Mr. Rino Bei
61 Lapham Street
San Francisco, CA 94112

VII. ADDITIONAL INDIVIDUALS WHO COMMENTED ON THE DRAFT

Mr. and Mrs. Cohen
33 Foerster Street
San Francisco, CA

Alice Guidry
Foerster Street
San Francisco, CA

Mrs. Lucich
127 Foerster Street
San Francisco, CA

MOTION

ADOPTING FINDINGS RELATED TO THE CERTIFICATION OF A FINAL ENVIRONMENTAL IMPACT REPORT FOR THE PROPOSED CONNECTION OF THE J-CHURCH STREET CAR LINE FROM ITS CURRENT TERMINUS AT 30TH AND CHURCH STREETS TO METRO CENTER AT SAN JOSE AND OCEAN AVENUES.

MOVED, that the San Francisco City Planning Commission ("Commission") hereby CERTIFIES the Final Environmental Impact Report identified as "J-Line Connection", case file No. 81.62E, based on the following findings:

1. The City and County of San Francisco, acting through the Department of City Planning ("Department") fulfilled all procedural requirements of the California Environmental Quality Act (Cal. Pub. Res. Code Section 21000 *et. seq.*, "CEQA"), the State CEQA Guidelines (Cal. Admin. Code Title 14, Section 15000 *et. seq.*, "CEQA Guidelines") and Chapter 31 of the San Francisco Administrative Code ("Chapter 31").

a. The Department determined that an EIR was required and provided public notice of that determination by publication in a newspaper of general circulation on February 5, 1982.

b. On October 7, 1982 the Department published the Draft Environmental Impact Report ("DEIR") and provided public notice in a newspaper of general circulation of the availability of the DEIR for public review and comment and of the date and time of the City Planning Commission public hearing on the DEIR; this notice was mailed to the Department's list of persons requesting such notice.

c. On October 7, 1982 copies of the DEIR were mailed or otherwise delivered to a list of persons requesting it, to those noted on the distribution list in the DEIR, to adjacent property owners, and to other government agencies, the latter both directly and through the State Clearinghouse.

d. Notice of completion was filed with the State Secretary of Resources via the State Clearinghouse on October 7, 1982.

e. Notices of availability of the DEIR and of the date and time of the public hearing were posted by Department staff on October 7, 1982.

f. The State Clearinghouse provided a public review period of 71 days from the date they received copies of the DEIR, and comments were received from State agencies within that period.

2. The City Planning Commission held a duly advertised public hearing on said Draft Environmental Impact Report on December 16, 1982, at which opportunity was given for, and public comment received on, the DEIR.

3. The Department prepared responses to comments on environmental issues received at the public hearing and in writing during the 71-day public review period, prepared additions to the text of the DEIR in response to comments received or based on additional information that became available during the public review period, and corrected errors in the DEIR. This material was presented in a "Draft Summary of Comments and Responses,"

published on April 4, 1983, was distributed to the Commission, and was available to others upon request by Department offices. The Summary of Comments and Responses was amended by an Addendum to Comments and Responses published on April 21, 1983, containing clarifications and minor corrections.

4. A Final Environmental Impact Report has been prepared by the Department, based upon the Draft Environmental Impact Report, any consultations and comments received during the review process, any additional information that became available, and the Summary of Comments and Responses, all as required by law.

5. Project Environmental Impact Report files have been made available for review by the City Planning Commission and the public and these files are part of the record before the Commission.

6. On April 21, 1983, the Commission reviewed the Final Environmental Impact Report and found that the contents of said report and the procedures through which the Final Environmental Impact Report was prepared, publicized and reviewed comply with the provisions of the California Environmental Quality Act, the Guidelines of the Secretary for Resources and Chapter 31 of the San Francisco Administrative Code.

7. The City Planning Commission hereby does find that the Final Environmental Impact Report concerning 81.62E, J-Line Connection is adequate, accurate and objective, and that there are no significant revisions to the Draft Environmental Impact Report, and hereby does CERTIFY THE COMPLETION of said Final Environmental Impact Report in compliance with the California Environmental Quality Act and the State Guidelines.

8. The Commission, in certifying the completion of said Final Environmental Impact Report, hereby makes the following findings:

a. Short-term impacts associated with the construction of the project (as summarized on page 139 of the DEIR) are not in and of themselves a significant effect on the environment. The environmental effect is both limited in duration and is fully mitigated by the completion of construction

b. The addition of overhead wiring necessary for the operation of LRVs and the LRVs themselves would change the appearance of the urban streetscape. However, in an urban setting, overhead wiring is common. In addition, the project promotes the policies of the Transportation Element of the Master Plan as well as the Environmental Protection Element of the Master Plan. Any effect will not be significant.

c. The operation of new LRV service on Monterey Boulevard and Mission Street would generate fiscal operating deficits and is not an impact of the physical environment.

d. Any increase in population along the route due to the project is expected to be nominal and, as such, will not have a significant effect on the environment. Further, such increases are not in and of themselves a significant effect on the environment. The environmental effects of population increases may include such aspects as energy consumption and transportation demand, none of which have been documented as being significant in the EIR. Population increases clearly have no intrinsically significant effects on the environment. Moreover, any increase in the existing density of

the areas adjacent to the route would require an amendment to the City Planning Code. None is being proposed.

e. Changes in individual consumer shopping behavior attributed to the project will not have a significant effect on the environment. Potentially affected neighborhood businesses are all within the City and County of San Francisco, and any changes will be spread amongst many businesses.

f. New public utilities constructed above-ground proximate to City College would change the appearance of the urban streetscape. However, the visual effect is insignificant and will promote policies of the Transportation Element of the Master Plan as well as the Environmental Protection Element of the Master Plan. These changes within an already-built urban area will not have a significant effect on the environment.

g. The loss of parking spaces adjacent to new transit stops would not be major and would be outweighed by the provision of new transit access. This is not a significant effect on the environment.

h. The potential for derailed LRVs at the I-280 off-ramp for the Monterey alignment is minimal. Should such an accident occur, the duration of traffic disruption would be limited; and the severity dependent to the time of day, day of the week, and weather conditions at the time of the accident. As such, it will not have a significant effect on the environment.

i. LRV operation would cause barely perceptible to perceptible vibration in buildings adjacent to the route. Muni will utilize the guidelines prepared by the Committee on Hearing, Bioacoustics, and Biomechanics (CHABA), Assembly of Behavioral and Social Sciences, National Research Council, to insure that adequate vibration criteria are met. The "Guidelines for Design of Rapid Transit Facilities" developed by the American Public Transit Association, 1981, will also be considered in further design stages of the project. Therefore, this will not have a significant effect on the environment.

j. Compared to the other alternative, the preferred project would not have a significant effect on the environment, with an annual energy savings of 2.9 billion BTUs. The other alternatives (which are not being considered) would have an annual energy cost of 6.5 billion to 11 billion BTUs.

9. The Commission, in certifying the completion of said Final Environmental Impact Report, hereby does find that the proposed project presented to the Planning Commission for consideration will have a significant effect on the environment in that it will cause conflict between rail and non-rail vehicles, that may adversely affect traffic flow and occasionally reduce traffic speed on San Jose Avenue near Randall Street during peak hours for freeway-bound traffic.

I hereby certify that the foregoing Motion was ADOPTED by the City Planning Commission at its regular meeting of April 21, 1983.

Lee Woods, Jr.
Secretary

AYES: Rosenblatt, Bierman, Karasick, Klein
NOES: None
ABSENT: Nakashima, Salazar, Wright
PASSED: April 21, 1983

IX. CHANGES TO THE TEXT OF THE DRAFT EIS/EIR

TABLE 1. COMPARISON OF ALTERNATIVES (Continued)

SAN JOSE AVE. ALIGNMENT		MONTEREY BLVD. ALIGNMENT	MISSION ST. ALIGNMENT	NO BUILD
Economic and Fiscal Impacts (current dollars)	<p>Revenue service on this proposed alignment is expected to result in an estimated net savings over 30 years of \$2.2-3.1 million.</p> <p>These net savings include construction capital costs of \$10.9 million and costs for vehicles of \$4.8 million.</p>	<p>Revenue service on this proposed alignment is expected to result in estimated costs over 30 years of \$7.4-8.5 million.</p> <p>These net costs include construction capital costs of \$17.4 million and costs for vehicles of \$7.2 million.</p>	<p>Revenue service on this proposed alignment is expected to result in estimated costs over 30 years of \$8.4-10.4 million.</p> <p>These net costs include construction capital costs of \$14.3 million and costs for vehicles of \$7.2 million.</p>	No change in existing costs.
Public Services and Utilities	<p>Relocation of both overhead and underground utilities potentially required for portions of each proposed alignment when in direct conflict with construction and operation of Muni tracks and power utilities.</p> <p>On all proposed alignments, equivalent improvement of access to schools and other public service facilities in affected neighborhoods. During construction, emergency response time could be negatively affected by construction activity.</p>			Public services and utilities adequate as currently provided.
Growth Inducement	<p>Due to the limited vacant space for new residential and commercial development along the vicinity of proposed alternative alignments, the potential for growth inducement appears low.</p> <p>All proposed alternatives would improve service to affected neighborhoods, but it is not anticipated that this would induce growth. It is possible that improved access could induce pressure to change zoning for increased density.</p>			N/A
Displacement and Relocation	None of the proposed alignments would require displacement or relocation within the affected neighborhoods.			N/A

TABLE 1. COMPARISON OF ALTERNATIVES (Continued)

	SAN JOSE AVE. ALIGNMENT	MONTEREY BLVD. ALIGNMENT	MISSION ST. ALIGNMENT	NO BUILD
Traffic Circulation	<p>The principal impacts would occur at car stops and points at which special traffic signals would be required for LRV turning movements. Tracks in pavement could create hazardous conditions for bicycles, mopeds, etc., and for all vehicles in wet weather.</p> <p>The presence of boarding islands would slow moving vehicles.</p> <p>To facilitate traffic flow, parking spaces adjacent to car stops and at other critical locations would be restricted or eliminated. Overall circulation would improve.</p>			No effect on existing traffic circulation.
	Through the I-280 undercrossing, tracks in median would require reduced speed limit.	<p>Remove parking one side of Genessee Street.</p> <p>Derailed LRV at I-280 off-ramp could create backup onto freeway, with potential for highspeed accident.</p> <p>Reduced traffic level of service at phelan, Ocean, and Geneva intersection.</p>	<p>Introduction of mixed LRV/bus traffic increases the possibility that each vehicle type would interfere with the other's operation.</p> <p>LRVs in center lane would create sight barrier for drivers following, thereby increasing potential for delay and disruption with regard to left turns.</p>	
	Reduced traffic level of service at Randall/San Jose intersections.			
Transit Impacts	<p>J-M Loop line, in conjunction with the 54-Felton, would replace the current operation of the outer part of the 26-Valencia route. The 26-Valencia would be rerouted south of the Glen Park BART station.</p> <p>The J-M Loop line would provide access from the Mission and Ingleside Districts to Stonestown Shopping Center and to San Francisco State University.</p>			No impact on existing transit.
	Transfer to Glen Park BART station would require a pedestrian overcrossing and stairway to a LRV stop in the median of San Jose Avenue.			
		J Line would duplicate segments of the 10, 36, 43 and K lines.	J Line would duplicate 1.5 miles of the 14 line and 2 miles of the 12 line.	
	Additional patronage: 2,500-3,000 daily.	Additional patronage: 2,000-2,500 daily.	Additional patronage: 2,000-3,000 daily.	
	Operating time savings: 2,166 hours/year.	Operating time savings: 2,166 hours/year	Operating time savings: 2,166 hours/year.	
		Only alignment with direct access with City College.		

TABLE 1. COMPARISON OF ALTERNATIVES (Continued)

SAN JOSE AVE. ALIGNMENT		MONTEREY BLVD. ALIGNMENT	MISSION ST. ALIGNMENT	NO BUILD
Vegetation	No change with respect to existing conditions.	No change with respect to existing conditions.		
Energy	<p>In relation to total construction expenditures, energy costs for this proposed alternative estimated to be 570 billion BTUs (103,000 barrels of oil).</p> <p>Decrease in energy consumption to operate this proposed alternative estimated to be 2.9 billion BTUs (500 barrels of oil) per year.</p>	<p>In relation to total construction expenditures, energy costs for this proposed alternative estimated to be 900 billion BTUs (162,000 barrels of oil).</p> <p>Increase in energy consumption to operate this proposed alternative estimated to be 11 billion BTUs (2,000 barrels of oil) per year.</p>	<p>In relation to total construction expenditures, energy costs for this proposed alternative estimated to be 740 billion BTUs (133,000 barrels of oil).</p> <p>Increase in energy consumption to operate this proposed alternative estimated to be 6.5 BTUs (1,200 barrels of oil) per year.</p>	N/A
	Increased transit use could decrease automobile use, with a positive impact on overall energy consumption associated with travel.			No change from existing energy consumption.

II. Alternatives Including the Proposed Action

Jose Avenue Alignment, to 740 billion BTUs (133,000 barrels of oil) for the Mission Street Alignment, to 900 billion BTUs (162,000 barrels of oil) for the Monterey Boulevard Alignment. Once in operation, the San Jose Avenue Alignment **would result in a savings of 2.9 billion BTUs (500 barrels of oil)**, for the Mission Street Alignment, **would require an additional 6.5 billion BTUs (1,200 barrels of oil) compared to the no-build case**, and for the Monterey Boulevard Alignment, an additional **11 billion BTUs (2,000 barrels of oil)**.

In terms of percentage of the energy consumption for the San Jose Avenue Alignment, the least energy-consumptive alternative, the Monterey Boulevard Alignment would consume **60% more energy** during the construction phase; the Mission Street Alignment would consume **30% more energy** in construction than would the San Jose Avenue Alignment. **The Monterey Boulevard alignment would consume about 70% more energy (above the no-build alternative) annually than would the Mission Street alignment. The San Jose Avenue alignment would consume less energy than the no-build case.**

c. Traffic

The three proposed build alternatives would also have differing traffic impacts. The City College loop of the Monterey Boulevard Alignment would present few problems regarding volume of traffic and detour alternatives during the building phase, as would the sections of the San Jose Avenue Alignment south of the I-280 undercrossing. For both of these alternatives traffic circulation would be impeded in the Bernal Cut segment because of the high volume and lack of detour possibilities. Construction on Mission Street would be hampered by the general traffic volume, the narrowness of the street in many places, and the inability to detour electric trolley buses temporarily or provide substitute diesel service.

After completion, mixed LRV/trolley and diesel bus traffic would measurably slow traffic on Mission Street, as would the car-stop islands. Parking spaces on this and on the other proposed alignments would have to be removed to facilitate traffic flow. In the City College loop, a one-way street pattern may be implemented to speed traffic. On the Monterey Boulevard Alignment, high-speed automobile accidents could result from a derailment or blockage by an LRV at the I-280 off-ramp. At the San Jose Avenue/I-280 undercrossing, introduction of LRVs in the median would slow traffic measurably.

Along certain segments of the Mission Street and Monterey Boulevard Alignments, the LRVs would duplicate existing transit facilities. This duplication would increase transit

IV. ENVIRONMENTAL CONSEQUENCES/IMPACTS AND MITIGATION MEASURES

A. LAND USE AND URBAN DESIGN

I. Conformance with Existing Land Use

Since the three alternative build alignments would occur within the street rights-of-way, no direct land use impacts would result from implementation of any alignment alternative.

The Mission Street Alignment could possibly affect the southwest corner of 30th and Mission Streets where a Chevron gas station is located. Any potential impact at this location would only be as required to provide an adequate turning radius from 30th Street onto Mission Street.

The alignments would be located in the streets. None of the alternatives being considered would actually divide a neighborhood in a physical sense. The major arterials which the alternatives utilize could in themselves be considered as borders or edges of neighborhoods pages.

There is no open land along any of the corridors. The major vacant land in the affected neighborhoods is located at the tops of the hills and is unbuildable either because of steep slopes or because it is dedicated as park open space. Much of the San Jose and Monterey Boulevard alternatives run along the Bernal Cut, which is not developable, and development along these routes is further constrained by their proximity to major public uses such as the freeway, Balboa Park and City College. Additional development would therefore require demolition of sound housing stock and even then would only result in slightly higher densities under the existing zoning. At the current housing price levels, this would not make economic sense. The last comprehensive residential rezoning effort culminated in 1978 after a four year process, and is not likely to be repeated again for at least 10 years. The City Planning Commission would not be receptive to moves to sporadically rezone to higher densities or to commercial uses since such spot zoning has been found illegal.

The population and housing trends in this district and through-out the city reinforce this land use analysis. The population of the City of San Francisco has been declining for the past twenty years. The DEIS notes the 5.1% decline between 1970 and 1980, but between 1960 and 1970 the City's population had declined an additional 3.3%. Table A shows the population of the J-Line Connection corridor during these two periods. The corridor population decreased by nearly 2,800 persons between 1960 and 1970, but then rebounded to gain 908 persons by 1980. (Note that the reason the DEIS indicates an increase of only 84 people from 1970 to 1980 is because census tract 262 is not included. Census tract 262 is not adjacent to any of the alignments, but is included here to incorporate the 1960 data because 1960 census tract M-0008 includes both census tracts 261 and 262 as redesignated in 1970.)

There is little consistency among the tracts within the study area during the two decades. Population in the northern census tracts (215 and 253) of the area in the Noe Valley and Bernal Heights neighborhoods, respectively, declined over both periods but with differing trends. Census tract 255, also in Bernal Heights, increased in population from 1960 to 1970 and then declined by even more between 1970 and 1980, however. Other census tracts had uneven growth and decline patterns over the 20 year period.

Residential development in the area suggests a somewhat stronger trend as shown in Table B. Again, between 1960 and 1970 adjacent census tracts alternately increased and decreased in their number of housing units. But overall, this decade saw a modest increase in total housing units, despite a large decrease in population. In the next decade, with a modest increase in population came a rather large level of new housing development. The 1,405 additional units in the study area represented nearly a quarter of new housing development in the City during 1970-1980 period. The result was steady decrease in the size of households in the area from 2.95 persons in 1960 to 2.67 in 1980. This figure remained well above the citywide 1980 household size of 2.16. The most extreme change occurred in census tract 215 which gained 261 housing units from 1960 to 1980, but lost 829 people during the same period. The number of persons per housing unit remained above 2.0 in 1980, however, from 2.68 in 1960.

These data suggest that this area is experiencing trends very similar to the City as a whole, with some pressure for housing development but declining family size as lifestyles change. It is not clear that these trends are particularly correlated with

transit and transportation development which occurred in this area in the mid-1960s. The fact that BART had no demonstrable impact on housing and demographic distribution is substantiated in the reports of the BART Impact Program, conducted by the Metropolitan Transportation Commission and sponsored by the U.S. Department of Transportation (DOT) and Housing and Urban Development (HUD).¹ High housing demand in San Francisco is a function of several factors including shrinking land availability and a growing employment base both regionally and within the City. These kinds of pressures are much stronger than are improvements in neighborhood transit systems and will likely continue whether or not the project is built.

¹Metropolitan Transportation Commission, BART in the San Francisco Bay Area: Summary of the Final Report of the BART Impact Program, Berkeley, December 1979, page 11.

TABLE A
CORRIDOR POPULATION

<u>Census Tract</u>	<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>1960-1970 Number Change</u>	<u>1970-1980 Number Change</u>
215*	6,060	5,983	5,231	-77	-752
253	4,457	4,051	3,780	-406	-271
254*	10,274	10,369	10,244	+95	-125
255	6,157	5,550	5,780	-607	230
256	3,829	3,738	4,563	-91	825
260*	13,051	13,051	13,168	0	117
261+262*	9,247	8,048	9,035	-1,119	987
311	5,700	5,706	5,662	+6	-44
312*	<u>6,558</u>	<u>6,066</u>	<u>6,007</u>	<u>-492</u>	<u>-59</u>
TOTAL	65,333	62,562	63,470	-2,771	908

*Census tracts partially affected by project alternatives.

Bureau of the Census, 1960 U.S. Census PHC (1)-137, 1970 U.S. Census PHC(1)-189, and 1980 U.S. Census STF-1A.

TABLE B
HOUSING UNITS IN THE CORRIDOR

<u>Census Tract</u>	<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>1960-1970 Number Change</u>	<u>1970-1980 Number Change</u>
215	2,260	2,399	2,521	139	122
253	1,551	1,460	1,610	-91	150
254	3,347	3,504	3,638	157	134
255	2,205	2,144	2,188	-61	44
256	1,245	1,259	1,454	14	195
260	4,179	4,308	4,495	129	187
261+262	3,145	3,003	3,268	-142	265
311	1,997	2,196	2,374	199	178
312	<u>2,187</u>	<u>2,094</u>	<u>2,224</u>	<u>-93</u>	<u>130</u>
TOTAL	22,116	22,367	23,772	251	1,405

Bureau of the Census, 1960 U.S. Census PHC (1)-137, 1970 U.S. Census PHC(1)-189, and 1980 U.S. Census STF-1A.

IV. Environ. Consequences/Impacts & Mitigation Measures

combination of these new trips and diversion from the No. 26 bus route (see Section IV.C.2., page 94). These added riders primarily would not be downtown-oriented and so it is not expected that additional J line vehicles would be required at its Duboce Portal maximum load point. Much of the increased ridership would be in the reverse peak direction towards San Francisco State and Stonestown. The patronage estimate assumed that downtown commuters would continue to use BART where possible.

The San Jose Avenue Alternative provides the potential for operational cost savings, by shortening the J-Church and N-Judah Muni Metro routes. For the J line, the savings in time would be an estimated 1,030 minutes per weekday. For the N line the time savings would be an estimated 850 minutes per weekday. With the J and N combined, the savings would be 9,250 vehicle hours per year (based on a seven-day operating schedule). With 12-minute headways, 500 minutes would be saved per weekday or 2,166 hours per year on the J line.

Table 6, page 68 gives the operating cost/revenue picture for the San Jose Avenue alternative in fiscal year 1980-81 dollars. The financial benefits include the decreases in operating costs related to time and travel savings and in truncating the No. 26 route, plus the added revenue from the net additional patronage. However, additional operating costs would be associated with revenue passenger service on the J Line Connection. The calculations of cost savings and additional operating costs are based on current figures of \$43 per hour for LRVs and \$27 per hour for diesel buses.¹ For the San Jose Avenue Alternative the net benefit for the San Francisco Muni operating budget is estimated at \$180,000 - \$230,000 per year (1980-81 dollars). The net operating benefit if the J line is not through-routed with the M line is estimated at \$40,000-\$70,000 per year (1980-81 dollars). If 12-minute headways are scheduled south of 30th Street during midday runs, the net operating savings would range from \$270,000 to \$320,000. **Comparable total operating costs for LRV service in the entire Muni system are about \$21 million. The San Jose Avenue Alignment savings would amount to 1% to 1.5% of these costs.**

Monterey Boulevard Alignment. The estimated change in overall San Francisco Muni patronage due to the J Line Connection via the Monterey/Phelan route would be 1,500-1,800 additional daily riders if the J Line Connection terminates at the Metro Center (and 2,000-2,500 riders if the J and M lines were combined. These would be new trips on Muni. The actual patronage on the J Line Connection would be a combination of these new trips and diversion from the No. 26 bus route. These added riders would primarily not be downtown-oriented and so it is not expected that additional J line vehicles would be

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required at its Duboce-Portal maximum load point. Much of the increased ridership would be in the reverse commute direction towards City College and S.F. State.

The Monterey Boulevard Alignment alternative provides the potential for operational cost savings by shortening the routes for the J-Church and N-Judah Muni Metro routes. For the J line, the savings in time would be an estimated 915 minutes per weekday. For the N line, the time savings would be about 600 minutes per weekday. With the J and N combined, the total savings would be 7,730 vehicle hours per year of weekday operation (based on a seven-day operating schedule). With 12-minute headways, **824 minutes** would be saved per weekday, or **3,571 hours** per year on the J line.

Table 7, page 70, gives the operating cost/revenue picture for the Monterey Boulevard alignment in fiscal year 1980-81 dollars. The financial benefits include the decreases in operating costs related to the time and travel savings, and in truncating the No. 26 route, plus the added revenue from the net additional patronage. Additional operating costs are associated with revenue passenger service on the J Line Connection. The calculations of cost savings and additional operating costs are based on current figures of \$43 per hour for LRVs and \$27 per hour for diesel buses. For the Monterey Boulevard Alignment alternative the net added cost for the San Francisco Muni operating budget is estimated to be \$330,000-\$390,000 per year (1980-81 dollars). The net operating cost if the J and M lines are not combined is estimated at \$380,000-470,000 per year. If 12-minute headways are scheduled south of 30th Street during midday runs, the net operating cost would range from \$180,000 to \$240,000. **Comparable operating costs for LRV service in the entire Muni system are about \$21 million. The Monterey Boulevard Alignment would increase these costs by 0.8% to 2.2%.**

Mission Street Alignment. The estimated change in San Francisco Muni's total patronage due to the J Line Connection via the Mission Street alignment would be 2,000-2,500 additional daily if the J Line Connection terminates at the Metro Center and 2,000-3,000 additional riders if the J and M lines were combined. These are new Muni trips. The actual patronage of the J Line Connection would be a combination of these new trips and diversion from the No. 26 bus route. These added riders would primarily not be downtown-oriented and so it is not expected that additional J line vehicles would be required at its Duboce-Portal maximum load point. Much of the increased ridership would be the reverse peak direction.

TABLE 7
ESTIMATED INCREMENTAL OPERATING COSTS AND REVENUES
(Seven Day Operating Schedule)
MONTEREY ALTERNATIVE

Item	Annual Cost or Revenue (1980-81 Dollars)
Vehicle Operating Costs (includes vehicle maintenance costs)	
<u>J Line</u>	
Operating Savings for Existing Scheduled Vehicles	\$ 200,000
Additional Cost ¹ for Service of Longer Line	(920,000) ²
<u>N Line</u>	
Operating Savings for Existing Schedule Vehicles	140,000
<u>26-Valencia</u>	
Savings for Short Route ³	<u>240,000</u>
NET OPERATING COST REDUCTION	\$ (340,000)
Track and Overhead Maintenance Costs ⁴	(260,000)
Passenger Revenue Increase ⁵	<u>210,000-270,000</u>
Net Annual Savings (costs)	\$(330,000-390,000) ^{6,7}

¹ Assumes 6-minute headways and peak and midday.

² With 12-minute headways south 30th Street, 10:00 a.m. to 3:00 p.m. weekdays, operating cost of J Line Connection is \$770,000.

³ Five-Year Plan routing from 26-Valencia.

⁴ Average of Muni, Portland, San Jose, estimate, April 1980, \$40,000 per mile of track.

⁵ If J line not combined with M line, estimated net revenue increase \$160,000-190,000

⁶ With the savings in operating costs associated with 12 minute headways, net annual costs would be \$180,000 to \$240,000.

⁷ With the added operating costs incurred if the J and M lines are not combined, net annual costs would be \$380,000 to \$470,000.

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The Mission Street alternative provides the potential for operational savings by shortening the J-Church and N-Judah Muni-Metro routes. For the J line, the savings would constitute an estimated 840 minutes per week day. For the N line the time savings would be 530 minutes per weekday. With the J and N combined, the total savings would be 6,700 vehicle hours per year of weekday operation (based on seven-day operating schedule). With 12-minute headways, **989** minutes would be saved per weekday, or **4,286** hours per year on the J line.

Table 8, page 72, gives the operating cost/revenue picture for the Mission Street alternative in fiscal year 1980-81 dollars. The financial benefits include the decreases in operating costs related to savings, and in truncating the No. 26 route, plus the added revenue from the net additional patronage. Also, additional operating costs would be associated with revenue passenger service on the J Line Connection. The calculations of cost savings and additional operating costs are based on current figures of \$43 per hour for LRVs and \$27 per hour for diesel buses. For the **Mission Street** alternative, the net added cost for the San Francisco Muni operating budget is estimated at \$450,000-\$560,000 per year (1980-81 dollars). The net operating cost if the J and M lines are not combined, is estimated to be \$450,000-\$610,000 per year. If 12-minute headways are scheduled south of 30th Street during midday runs, the net operating cost would range from \$270,000 to \$380,000. **Comparable operating costs for LRV service in the entire Muni system are about \$121 million. The Mission Street Alignment would increase these costs by 1.3% to 2.9%.**

b. Capital Costs

Capital costs include the costs of construction and the cost of purchasing additional Muni Metro vehicles to service the J Line Connection. Estimates of construction costs for the three project alternatives have been made by the engineering firm, Parsons, Brinckerhoff, Quade & Douglas and are presented in Table 9, page 73. The values used in the calculation of construction costs are conservative but do not include a number of items such as traffic relocation during construction, fencing, signing, and so on. For this reason, using professional judgment a contingency item of about 20% has been added to each estimate to account for these additional costs.

Muni's current operating experience is that 20% of the LRV fleet is out of service due to maintenance. The capital cost estimate assumes a 20% spare vehicle factor.

TABLE 8
ESTIMATED INCREMENTAL OPERATING COSTS AND REVENUES
(Seven Day Operating Schedule)
MISSION ALTERNATIVE

Item	Annual Cost or Revenue (1980-81 Dollars)
Vehicle Operating Costs (includes vehicle maintenance costs)	
<u>J Line</u>	
Operating Savings for Existing Scheduled Vehicles	\$ 180,000
Additional Cost for Service of Longer Line ¹	(1,100,000) ²
<u>N Line</u>	
Operating Savings for Existing Schedule Vehicles	110,000
<u>26-Valencia</u>	
Savings for Short Route ³	<u>240,000</u>
NET OPERATING COST REDUCTION	\$ (570,000)
Track and Overhead Maintenance Costs ⁴	(200,000)
Passenger Revenue Increase ⁵	<u>210,000-320,000</u>
Net Annual Savings (costs)	\$(450,000-560,000) ^{6,7}

¹ Assumes 6-minute headways and peak and midday.

² With 12-minute headways south 30th Street, 10:00 a.m. to 3:00 p.m. weekdays, operating cost of J Line Connection is \$920,000.

³ Five-Year Plan routing fro 26-Valencia.

⁴ Average of Muni, Portland, San Jose, estimate, April 1980, \$40,000 per mile of track.

⁵ If J line not combined with M line, estimated net revenue increase \$210,000 to \$270,000.

⁶ With the savings in operating costs associated with 12 minute headways, net annual costs would be \$270,000 to \$380,000.

⁷ With the added operating costs incurred if the J and M lines are not combined, net annual costs would be \$450,000 to \$610,000.

TABLE 9
ESTIMATED CAPITAL COSTS¹

ITEM	ALIGNMENT		
	SAN JOSE	MONTEREY	MISSION
Embedded Track	\$ 2,640,000	\$ 3,855,000	\$ 4,330,000
At-Grade Track	958,000	692,000	-----
Span Wire	635,000	466,000	1,143,000
Double Arm Wire	361,000	729,000	-----
Stations	153,000	255,000	234,000
Structures			
Pedestrian Bridge at Glen Park	263,000	-----	-----
Bridge to Monterey Boulevard ²	-----	3,113,000	-----
I-280 Bridge Reconstruction	-----	-----	1,564,000
Retaining Walls	253,000	253,000	-----
Underground Feeder	3,043,000	3,850,000	3,264,000
Special Track Work	190,000	270,000	170,000
Utilities	560,000	990,000	1,200,000
SUB TOTAL	\$ 9,056,000	\$14,471,000	\$11,905,000
20% Contingency ³	1,844,000	2,929,000	2,395,000
CONSTRUCTION SUBTOTAL ¹	\$10,900,000	\$17,400,000	\$14,300,000
Cost of Vehicles ⁴	4,800,000	7,200,000	7,200,000
TOTAL	\$15,700,000	\$24,600,000	\$21,500,000

¹Mid 1981 prices - does not include allowances for engineering and administrator or for cost escalation.

²Assumed that new bridge would be needed. Traffic problems with using existing bridges (ramps) could lead to hazardous conditions.

³Adjusted so total is rounded to nearest \$100,000.

⁴Assumes J - M interline and six minute headways.

Source: Parson, Brinckerhoff, Quade and Douglas, Inc.

IV. Environ. Consequences/Impacts & Mitigation Measures

c. Fiscal analysis

The previous discussion has outlined estimated capital costs and operating savings or costs over the No-build Project Alternative. In calculating the fiscal impacts on Muni only a portion of these expenses are included. Specifically, it is assumed that UMTA will fund 80% of the capital cost of the project. It is possible that this level of federal assistance would not be available and that Muni would have to assume a larger proportion of the capital costs. In order to calculate life-cycle costs of the project, it was assumed that Muni would have to fund 100% of operating expenses from operating revenues. This is a very conservative assumption since Muni currently funds less than 40% of its budget with its own revenues. Finally, operating savings and costs are extended uniformly over a 30-year life for the project and discounted to present value (1981 dollars) at a four percent per year rate.²

The results of the fiscal analysis are presented in Table 10, page 76. The sub-alternative returning the greatest net savings at \$2,200,000 to \$3,090,000 is the San Jose Avenue Alignment with 12-minute headways south of 30th Street. The Mission Street and Monterey Boulevard Alignment alternatives return net costs over the life of the project.

It should be noted that the level of federal assistance is critical for this analysis. The San Jose Alignment alternative returns the highest operating savings, but would require a minimum federal assistance for 60% of the capital costs in order to return net savings.

Table 10a indicates the fiscal impact of the project assuming a useful life for the connection of 45 years and a useful life for the rolling stock of 30 years. This improves the net savings generated by San Jose Avenue alternative and worsens the performance of the other alternatives. As in Table 10, capital cost figures assume an 80% federal subsidy. In this analysis, the San Jose Avenue alignment would require a minimum federal assistance for 52% of the capital costs in order to return net savings.

2. Public Services and Utilities

a. Fire³

No impacts on fire protection services would be generated by implementation of the No-Build Alternative. The fire department must be able to maintain access to buildings on either side of the selected alignment construction zone. Common to the three alignment alternatives is the potential for more reserve calls pertaining to injuries involving Municipal Railway vehicles, primarily because LRV riders would be embarking and disembarking the LRV from the street rather than from the sidewalk.

TABLE 10

FISCAL IMPACTS OF J-LINE CONNECTION ON SAN FRANCISCO MUNICIPAL RAILWAY
(Constant 1981 Dollars in 1000s of Dollars)

<u>Alignment Alternative</u>	<u>Capital Costs</u> ¹	<u>Present Value Operating Savings (Costs)</u>	<u>Net Savings (Costs)</u> ²
1a. San Jose Ave.	3,140	3,240-4,120	100-980
1b. J-M Not Combined	2,900	720-1,260	(1,640-2,180)
1c. 12-Minute Headways	2,660	4,860-5,750	2,200-3,090
2a. Monterey Blvd.	4,920	(5,930-7,010)	(10,850-11,930)
2b. J-M Not Combined	4,440	(6,830-8,450)	(11,270-12,890)
2c. 12-Minute Headways	4,200	(3,240-4,320)	(7,440-8,520)
3a. Mission Street	4,300	(8,090-10,070)	(12,390-14,370)
3b. J-M Not Combined	3,820	(8,090-10,970)	(11,910-14,790)
3c. 12-Minute Headways	3,580	(4,850-6,830)	(8,430-10,410)

¹20% of total cost of construction and rolling stock.

²Present value operating savings (costs) minus capital costs.

Sources: Parson, Brinckerhoff, Quade and Douglas
EIP Corporation

TABLE 10a
FISCAL IMPACTS OF J-LINE CONNECTION ON MUNI OVER AN EXTENDED PROJECT LIFE¹

<u>Alignment Alternative</u>	<u>Capital Costs</u> ²	<u>Present Value Operating Savings (costs)</u> ³	<u>Net Savings (costs)</u>
1a. San Jose Avenue	3,620	3,880 - 4,960	259 - 1,336
1b. J-M Not Combined	3,260	862 - 1,510	(1,750 - 2,400)
1c. 12-Minute Headways	2,900	5,820 - 6,900	2,920 - 4,000
2a. Monterey Boulevard	5,640	(7,110 - 8,400)	(12,750 - 14,000)
2b. J-M Not Combined	4,920	(8,190 - 10,100)	(13,100 - 15,000)
2c. 12-Minute Headways	4,560	(3,880 - 5,170)	(8,440 - 9,730)
3a. Mission Street	5,020	(9,700 - 12,100)	(14,700 - 17,100)
3b. J-M Not Combined	4,300	(9,700 - 13,100)	(14,000 - 17,400)
3c. 12-Minute Headways	3,940	(5,820 - 8,190)	(9,760 - 12,100)

¹ Assumes useful life for connection of 45 years and useful life for rolling stock of 30 years.

² Twenty percent of costs of construction plus expenditures for rolling stock over a 45-year period.

³ Assumes a stream of operating savings (costs) over a 45-year period.

IV. Environ. Consequences/Impacts & Mitigation Measures

Avenue/Monterey Boulevard on/off-ramps and go through the Diamond Street/Circular Avenue intersection.

The two subalternative alignments, in the median lanes or in the outside lanes through the Bernal Cut, would require different ramping arrangements between San Jose Avenue and Monterey Boulevard/Circular Avenue. The outside-lane subalternative would use the existing ramps (structurally strengthened), while the median-lane subalternative would use new structures touching down directly at the Monterey Boulevard/Circular Avenue intersection. The **outside** subalternative alignment would use one block of **Monterey Boulevard** between Diamond Street and **the I-280 off-ramp**. For the outside lane subalternative the stations would be as follows:

- The inbound station at **Monterey Boulevard** and Diamond Street would be on the San Jose Avenue on-ramp and would occupy the left lane of the two lanes with a safety island between the right and left lanes. A new sidewalk on the east side of Diamond Street connecting to the existing off-ramp crosswalk and a new crosswalk across Circular Avenue would provide access to the pedestrian island. A new pedestrian-activated signal would be installed to help the pedestrians cross the Circular Avenue traffic.
- The outbound station would be on the San Jose Avenue off-ramp as a nearside curb stop at Diamond Street. The existing demand-actuated pedestrian-only signal phase to protect the Diamond Street crosswalk would be modified to include the LRV crossing. The pavement markings would indicate that the left-hand lane was for through traffic only, to help prevent motor vehicles from right turning in front of a stopped LRV. Curb parking would be prohibited on the north side of Circular Avenue. At both ramps the loss of a lane would change the level of service from A to B.

Circular Avenue/Monterey Boulevard/I-280 On/Off-Ramp Intersection. For the outside-lane subalternative, the inbound trains would use the present left lane of the double left turn (Monterey Boulevard eastbound to Circular Avenue northeastbound). The traffic impact would be minimal. Outbound trains would use the present right-turn channelization, but because the train must use the center lane on Monterey Boulevard, this movement would be prohibited during the Monterey Boulevard off-ramp (westbound) phase

IV. Environ. Consequences/Impacts & Mitigation Measures

on Guerrero Street between 30th Street and Duboce Avenue rather than its present routing on Valencia Street.

Unlike the existing 26-Valencia routing, which terminates at San Francisco State University, its replacement, the J-M loop route, would provide direct access from the Mission and Ingleside Districts to Stonestown Shopping Center as well as to San Francisco State. Furthermore, unlike the existing 26-Valencia, the J Line Connection on San Jose Avenue would provide a direct line between the San Jose Avenue area with Noe Valley, lower Eureka Valley, the Duboce Triangle and the N line serving the University of California Medical Center and the Inner Sunset. However, with the J Line Connection, travel between San Jose Avenue area and the Valencia Street or the downtown section of Mission Street could require a transfer at 30th Street, which is not the case with the existing 26 route.

Route Changes. There are two distinct viewpoints with respect to changes in transit routes: that of the user and that of the public at large, which is similar to that of the transit operators.

From the transit operator's point of view as well as from that of the public, the long-run operational impacts would be central and critical. The San Jose Alignment would save in overall vehicle and operator hours while providing service to a new section of the route. This potential for savings is detailed on page 67. For all three alignments, the J and N line routes would bypass the West Portal and also have fewer reversals at The Embarcadero Station, thereby reducing the congestion at these critical points by a projected 78 car movements per day, thereby improving Muni Metro operation.

To obtain the full benefit of these potential savings for the N line, a left-turn track between Church Street and Duboce Avenue would be constructed (the right turn already exists).

From the point of view of the public and the transit operators, what matters over the long run is the increase in the total transit system's patronage, not how a particular line gains or loses riders. In the short run due to a route change there may be more or less crowding on a particular line or section of a line. In the **long term**, however, patronage levels and headways tend to balance out as new schedules are made.

Noise measurements were made on 17 January 1983 on both Monterey Boulevard and Genessee Street. The results of the noise measurements are shown on Table D. Noise measurements were made between the hours 5:00 and 6:00 in the morning and also between 2:30 and 3:30 in the afternoon. The early morning hour was chosen because calculations indicate that that largest increase in hourly noise levels would occur during this hour if the J-Line Connection project were implemented. The mid-afternoon measurements were taken to assess noise level changes during daytime hours. The data indicates that noise levels are quieter along Genessee Street than anywhere else in the study area. During the morning, sound levels are quite low and in fact, the Leq would have been about 45 dBA had not a garbage truck passed during the measurement. Conversations with the MUNI scheduling department indicate that one bus passes on Genessee Street between the hour of 5:00 and 6:00 in the morning, although it did not pass during our measurement. During the afternoon, more traffic, including two diesel-powered buses, passed during the measurement session. The diesel buses (lines 43 and 36) emitted levels of 78-82 dBA, typical of levels measured throughout the study area for diesel bus passbys. Noise levels on Monterey Boulevard are significantly higher than along Genessee Street. From 5:00 to 6:00 in the morning, for example, the Leq is approximately 59 dBA. In the afternoon, the noise level increases to about 66 dBA.

If the Monterey Boulevard alignment were chosen, we calculate that hourly noise levels would not increase along Monterey Boulevard and maximum noise levels generated by the LRV passbys would not be louder than existing maximum noise events. Along Genessee Street or any of the other streets between Monterey Boulevard and Judson Avenue, noise levels would increase significantly during the early morning and late night hours. An increase in the hourly Leq of up to 10 dBA could be expected from 5:00 to 6:00 p.m. This would be expected to generate widespread community response in the neighborhoods and would be considered a significant noise impact. Noise levels would not be increased significantly during daylight hours. Vibration levels, as discussed on page 119, would be barely perceptible along this alignment and would be expected to cause no adverse community impact.

Table D : Noise Measurement Data

Site No.	Location	Day and Time of Measurement	L_1^*	L_{10}	L_{50}	L_{90}	L_{99}	L_{eq}^{**}	Comments
11	Corner of Genessee and Flood, 15 ft. from curb of each	Monday 1/17/83 5:10 - 5:25 am	62	47	40	36	35	50	Garbage truck: 71 dBA; light traffic, buses on Foerster St. to 58 dBA
11	" "	Monday 1/17/83 2:40 - 2:55 pm	77	66	56	50	45	65	Trucks, cars, buses on Genessee St. to 82 dBA
12	Monterey Blvd. near Foerster, 30 ft. from the centerline of the near lane--typical of building setbacks on Monterey Blvd.	Monday 1/17/83 5:35 - 5:50 am	72	60	51	46	42	59	Traffic on Monterey; buses across Monterey to 74 dBA
12	" "	Monday 1/17/83 3:05 - 3:20 pm	75	70	64	60	60	66	Traffic on Monterey; buses to 75 dBA

*The sound level in dBA that was equaled or exceeded one percent of the time; L_{10} , L_{50} , L_{90} and L_{99} are the levels equaled or exceeded 10, 50, 90 and 99 percent of the time, respectively.

**The L_{eq} is the equivalent steady-state sound level that, in a stated period of time, would contain the same acoustic energy as the time-varying sound level during the same time period.

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